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Original Department.

New Methods of Treating Stomach Diseases.

A CLINICAL LECTURE BY DR. DUJARDIN-BEAUMETZ, PHYSICIAN TO THE HOSPITAL COCHIN, ETC., PARIS, FRANCE.

GENTLEMEN:—There is no department of pathology which has been more favorably influenced by therapeutics than that which pertains to diseases of the stomach, and I desire on this occasion to bring before your notice three curative procedures, which I deem of the greatest importance, and which seem to have revolutionized the treatment of gastric affections; these are of surgical nature and are comprehended under the heads: lavage, or washing out the stomach; gavage, or forced feeding; and the use of meat powders in the alimentation of the sick.

Encouraged by the success which the antiseptic method has given in operations practiced on the abdomen, surgeons have sought to effect active intervention in the disorders of the stomach and have successively proposed *gastrotomy*, *gastrostomy*, and *gastrectomy*. I cannot give you here a complete account of these three operations, so I will only point out their chief indications.

Gastrotomy consists, as you know, in opening the stomach, and this operation has been performed of late especially in order to remove from the cavity of that organ foreign bodies, and you are familiar with the interesting cases of Labbé and Felizet. It has also been lately proposed to practise this operation in order to penetrate the stomach and gain access to the pylorus, for the purpose of dilating it with the fingers, and thus overcoming fibroid thickenings of this orifice or cicatricial bands causing stricture. This digital dilatation has never been performed in France, and the most serious objection which can be made against it, is the difficulty of accurately diag-

nosticating beforehand the pathological condition requiring the operation.

The same objection may be made to gastrectomy, as applied to treatment of affections of the stomach, and to the difficulties of an operation which consists in removing a portion of the stomach and making a new pylorus, we must add the equal difficulty of correctly determining the nature of the malady, for in the great majority of cases we find it impossible to attain to certainty respecting the limits of the tumor which we would like to resect, and to know if there are not other tumors like it in other parts of the abdomen; therefore, gastrectomy, practised for the first time by Pean, and since then repeated so frequently in Germany, has seldom resulted in anything but failure, and to-day seems completely abandoned.

Gastrostomy, which is the establishment of a permanent opening in the walls of the stomach, is a much more rational operation, and has in numerous cases been attended with success. Gastrostomy may be performed under two different circumstances: when there exists a stricture of the œsophagus and of the cardiac orifice, or when there is an obstruction at the pylorus. In strictures of the œsophagus, and when this tube becomes impermeable, gastrostomy is urgently demanded, and it is apparent that by means of this kind, one may succeed in supporting the life of the patient by a gastric fistula. The curious observation of Prof. Verneuil, respecting Marcelin, shows us the advantages which may be derived from this operation. If, moreover, in fibroid strictures it does not always give us equally good results, it is because the operation was too long put off, and the patient worn out by prolonged abstinence was unable to resist a severe surgical traumatism.

I believe gastrostomy perfectly indicated in cases of cancer of the cardia and of the œsophagus. There are, in fact, cancerous affections which be come grave, not by the extent of their invasion, but because they constitute an insurmountable obstacle to the regular functions of organs indispensable to life. A cancer of very small dimensions situated at the pylorus or cardia, occasions death by starvation, and it is easy to understand that one may be able to prolong the life of patients for months, or even years, by creating a new passage for the introduction of food.

When the obstacle is seated at the pylorus, surgical intervention of a different character is required, and gastrostomy in this case consists in establishing a new orifice for the stomach, which shall open not externally, but into another part of the intestine. Surmay, of Ham, has advised to make the opening into the duodenum, and he has performed this operation in my service on a young woman 24 years of age, affected with cancer of the pylorus. The operation proposed by Billroth seems to me to constitute a notable advance on the preceding.

This operation consists in attaching a loop of intestine nearest the duodenum to the wall of the stomach, and in establishing there a communication between the two cavities, so that the stomach shall open into the intestine by a new pylorus. This operation does not involve the risk of loss of those fluids so necessary to intestinal digestion, the bile and pancreatic juice, which continue to flow into the upper part of the intestine. This is the operation which you ought to perform whenever there exists an obstacle at the pylorus effecting, or nearly effecting, closure, and for my part I have very much regretted that I did not resort to it in two cases where I had diagnosticated non-malignant stricture of the pylorus; the autopsy having shown my diagnosis to be true. I believe, moreover, that in certain forms of cancer of the pylorus, without any cachetic symptoms, this operation is indicated; for, leaving intact the tumor, it does not involve the grave risks of gastrectomy. Unfortunately, as in stricture of the œsophagus, we do not propose this surgical procedure except in the last stages of the disease, when the vital powers are low and the patient is ill able to withstand the sequels of the operation.

Lavage of the stomach has accomplished as wonderful results in the treatment of gastric affections as surgical intervention, and although the bitter opponent of this new method formerly, as you may see by the first edition of my "Clinical Therapeutics," I have seen reason to change my mind; you can, in fact, see every day in my hospital service, instances of the good effects which we obtain from washing out the stomach in diseases of that viscus.

It must not be supposed that this lavation in its essential particulars is new; it was even proposed as far back as 1832 by a French physician, Blaton, who recommended washing out the stomach in chronic gastritis; but it is to Kussmaul, in 1867, that we are principally indebted for practical details as to the easy performance, the indications and contra-indications, of the operation. The stomach siphon has contributed to render this practice current. It has been claimed that in 1829 Arnolt employed a soft rubber tube, and applied the theory of the siphon to the removal of the contents of the stomach. But it is to Oser, of Vienna, and Fauché, of Paris, that we owe the real discovery of siphonage, and it is since the communication of the latter to the Academy of Medicine in 1879, and his subsequent publications, that the method of Kussmaul has come into general use in France.

I need not describe here this stomach tube, with which you are all acquainted. I will only mention the useful improvement which Debove and Galante have made in the siphon, in giving to the part which penetrates the stomach more stiffness, while at the same time preserving its suppleness. I advise you always to commence your attempts at lavage with the tube of Debove, of which the introduction is very easy, since without the help of the pntient you can make it pass down to the stomach, by successive impulsions. Then when the œsophagus and stomach are habituated to the presence of this foreign body, you can make use of the ordinary siphon, which demands for its introduction efforts of deglutition on the part of the patient. It will be well for you to make your patient take bromide of potassium for two or three days before the first attempts to wash out the stomach; you will thus obtain anæsthesia of the isthmus of the fauces and diminish the reflexes which the introduction of the tube produces.

You should, moreover, not forget that in the passage of the tube the most painful sensation to the patient is that of respiratory embarassment, hence it would be well to recommend him to take as full breaths as possible. It is hardly necessary that I should describe minutely the manual manœuvers in the introduction of the tube; you are already familiar

with them. You fill your tunnel with the liquid designed for the lavage, then you elevate it, and when the liquid begins to disappear, you immediately lower it. Often foreign particles stop up the orifice of the siphon. To get rid of them, you may make use of two means. Either you may make the patient cough, which causes the liquid to flow more freely, or you may start anew the suction actioh of the siphon by poring in a certain quantity of water. I pass now to the different liquids which you may employ in the performance of lavage, and which constitute, so to speak, certain *dressings* for the mucous membrane.

For simple lavation you may make use of bicarbonate of soda water or a solution of sulphate of soda. In the greater number of cases it is water artificially charged with one drachm of soda bicarbonate to the quart of water that is used. The Germans seem to show a preference for the sulphate of soda, and you can employ a solution of this salt in the proportion of a drachm and a half to a quart of water in cases where very obstinate constipation complicates the stomach affection. You can also utilize the natural mineral waters, such as those of Vichy and Chatel-Guyon, for instance. When the contents of the stomach give indications of having undergone putrid fermentation, you can use with profit the various antiseptic solutions.

Andeer, who introduced resorcine into therapeutics, has proposed in these cases to wash out the stomach with 1-per-cent. solutions of this disinfectant, and I have myself often resorted to this antiseptic method, which has certain advantages, but is not without its disadvantages: I refer especially to the danger which is likely to result from absorption of this medicament when it is not all removed from the stomach by the siphon. Therefore, I much prefer boracic acid to resorcine. and I make my "lavages" with a 1-per-cent. solution of this acid and find that it disinfects the contents of the stomach perfectly well and may be absorbed without any bad effects. You can also use in these cases of putrid dyspepsia. Belloc's charcoal powder and make your lavation with water containing from two to four tablespoonfuls of this wood charcoal.

When the matters returned by the siphon contain a certain quantity of digested blood, as happens in cases of ulcerous gastritis, you can perform the "lavage" with a solution of perchloride of iron of about the strength of a tablespoonful of the officinal liquor to a quart of water.

In fine, when there exist severe gastric pains, you can employ with advantage in your lavations solutions of bismuth, of chloroform water, or water containing a minute proportion of sulphide of carbon. The solution of bismuth which I have described under the name of "milk of bismuth" contains two tablespoonfuls of sub-nitrate of bismuth in a pint of water; this solution is introduced by means of the flexible tube of Fauché. But instead of withdrawing the mixture immediately by the stomach tube, you wait three or four minutes so that the sub-nitrate of bismuth may deposit itself on the mucous membrane of the stomach. Then you siphon out the remainder of the liquid.

Chloroform water is a new medicinal agent which we owe to Regnault aud Lasègue. Nothing is more simple than the preparation of this chloroform water. You take a flask of the capacity of a quart; you fill it three-fourths full of water and add an indeterminate quantity of chloroform; you shake it several times, then you decant it with care so as to leave behind all the chloroform whtch is deposited. The solution which you thus obtain, and which keeps a strong odor of chloroform, is called "saturated chloroform water," and to make use of it for medicinal purposes you dilute it with an equal quantity of water. The patient should be made to take of this mixture a tablespoonful morning, noon and evening. It is very easy to medicate this chloroform water with other substances introduced to serve certain indications; thus diffusible stimulants may be added, such as ammonia, peppermint, lavender, or a more decided sedative action may be obtained by the addition of some of the narcotics.

In cases of gastralgia, or simple pain in the stomach, this chloroform water so prepared may give excellent results when taken by the mouth instead of by the stomach tube. If you employ it in the form of lavation in cases of acute pain, or intolerance of the stomach, you can make your solution with two teaspoonfuls of the saturated chloroform water to the quart of liquid.

Chloroform water is calmative and antiseptic, but these two properties are still more marked in the solution which I have denominated

CARBON DISULPHIDE WATER.

This water has for its base, the disulphide of carbon. Kiandi Bey has shown the innocuousness of this substance, which Delpech considered as eminently toxic, and he has proved its high antiseptic power, and my excellent interne, Sapelier, who is devoting his inaugural thesis to the study of disulphide of carbon, has demonstrated by experiments on animals that the view of M. Kiandi is correct, and that you may give 20, 30, or 40 centigrammes of this sulphuretted preparation to dogs without any danger

The water of carbon disulphide is prepared like chloroform water, by agitating water containing a small quantity of the substance and decanting the liquid; the most of the sulphide of carbon is deposited on the bottom of the vessel, and is easily left behind during decantation. This water has a slight odor of fermented cabbage, which somewhat resembles that of chloroform. It contains a little more than one gramme of carbon disulphide to the quart of water. We give it diluted with an equal quantity of water, or with wine and water.

This mixture has no disagreeable taste or smell, and we give of it four, five, and even six tablespoonfuls at a time. This water soothes pains in the stomach and arrests putrid fermentations, and we apply it, not only to the treatment of the dilatation of the stomach, but also internally in typhoid fever. (We shall return to this again in the next lecture on new intestinal medications).

You can also make use of this carbon disulphide water in "lavage" of the stomach, and employ for this purpose a solution containing one-third of this liquid and two-thirds of pure water.

You know already the operative manœuvers in the performance of "lavage;" you know also the solutions which are in common use iu washing out and in medicating the stomach; it remains for me now to indicate the temperature and the quantity of the liquids to employ, and the time for making these lavages.

I am in the habit of using liquids at the temperature of the surrounding atmosphere; there is, however, a

little risk in employing fluids at too low a temperature, and we had in our hospital wards one unfortunate case of pneumonia, resulting from the introduction of too great a quantity of cold water by the stomach tube; consequently I advise you to use water from which the chill has been taken, especially if you intend to introduce a large amount into the stomach. With regard to the quantity of liquid, there is no invariable rule, and you ought, when you can, to prolong the lavage till the water which flows out is as clear as that which enters, or nearly so. Even here, however, there are differences depending on the greater or less tolerance of stomachs, and while some can support large quantities of water, others vomit when the water introduced exceeds a certain amount, which is sometimes very small.

You ought always to perform the lavage when the patient is fasting, and the time which seems to me the most favorable is the hour of rising in the morning; Leube, however, would have it performed the latter part of the afternoon.

Generally one lavage a day is sufficient, and it is only exceptionally that you need to have recourse to it twice a day. Moreover, the abuse of these lavations is not without risk; the patients are fatigued, the peptonization of food is prevented, and sometimes the lavage becomes the irritant cause of contractures, which in one case, which I had last year under observation in the Hospital St. Antoine, took on a character of such gravity that the patient succumbed. Thus far I have only spoken to you of the siphon, and before entering on the study of the indications and contra-indications of this method, I ought to say a word about other instruments in common use.

The stomach pump has been employed by Kussmaul, and I have myself made great use of it, and my pupil, Dr. Lafage, of Neuilly, has reported in his thesis a large number of cases where the stomach pump was employed. But since then I have more and more abandoned the pump, and believe that in the great majority of cases the siphon suffices. I here show you, however, the stomach sound with double current, invented by Audhoui, and I call your attention to the new apparatus of Boisseau du Rocher, which, based on the same principle as the double current tube, has for its object to establish a current in the interior of the stomach. I do not know whether these instruments are often employed, and for my part I have never had recourse to them.

In what cases ought you to practice lavage of the stomach? There is a formal indication for these lavations whenever the stomach is dilated, whatever may be the cause of this dilatation. You know that dilatation of the stomach depends chiefly on three causes; either on a mechanical obstacle at the pylorus, as cancer or a cicatricial band, or an inflammation of the walls of the stomach which involves the muscular layer and paralyzes it (a morbid condition which almost always attends the prolonged gastritis of drunkards); or, lastly, it depends upon a peculiar state of the nervous system entailing paralysis, and the mechanism of which is unknown to us,—this kind of dilatation is seen in neuropathies, such as hysteria.

You know also the important pathogenic rôle which Prof. Bouchard has assigned to this dilatation of the stomach, which he considers as the initial cause of a great number of secondary affections. In all these cases lavage of the stomach will give you durable and permanent results when there are no incurable lesions, and a temporary benefit when you have to do with incurable lesions. In ridding the stomach of the liquids which embarrass it, in opposing the putrid fermentations which the prolonged sojourn of these liquids determines, and which have a considerable part, (as I shall tell you in the next lecture) in the morbid accidents which Prof. Bouchard has described under the name of stercoræmia, in stimulating the contraction of the muscular fibres, and finally in enabling you to medicate the mucous membrane of the stomach, lavage will give you astonishing results.

There has been considerable discussion as to whether one should practice lavage in cases of ulcer of the stomach. Here we ought to distinguish two different conditions; when you have to do only with simple erosions of the mucous membrane which give a black discoloration to the vomited matters, as is frequently the case in the gastritis of hard drinkers, lavage is indicated; when, however, you have to treat the round ulcer (ulcus-rotundum, of Cruveilhier) so frequently the cause of large hæmatemeses, you should refrain from lavage unless indeed you are certain that all danger of hæmorrhage has ceased. It has in fact been a frequent experience to see grave hemorrhages result from untimely lavations performed on patients affected with ulcer of the stomach.

The stomach tube has another useful office: it enables you to practise "gavage," or forced feeding. This word gavage was first applied by me to the method of Debove, and which consists in the introduction into the stomach by the flexible tube of nutritive mixtures. These alimentary mixtures have for their bases meat powders, and I shall finish this lecture by saying a few words about the mode of preparation of this kind of nutriment.

It is to Debove that therapeutics owes the introduction of meat powders, which were used during the Crimean war, and which our prime minister, Louvois, was one of the first to bring into use as a part of the dietary of the soldier. Since the first communication of Debove to the Society of the Hospitals, in 1882, the fabrication of these meat powders has acquired such an importance that to-day, in this city, it exceeds 300 killogrammes per day. The processes of manufacture of different firms vary somewhat in detail, but all substantially agree in this, that the meat employed, whether horse-flesh or beef, is to be first dried at a temperature below 212° F., then reduced to an impalpable powder, and this is all there is in Adrian's process.

In an interesting comparative study of the different meat powders, Yvon has shown that almost all contain an equal quantity of available nitrogen, viz: about 13 or 14 per cent. To remove the prejudicial odor which distinguishes these meat powders, especially when under decomposition, various processes have been tried. Rousseau washes them with alcohol, which frees them of fatty substances, and thus retards putrefaction; Yvon first cooks the meat a little, and he has shown that cooking does not in the least deprive the meat of its nutritive properties; Tanret prepares his meat powder in a similar way. But many persons prefer to make their own meat powder, and if you should be of their number, you can extemporize a good preparation in the following

way: Take a certain quantity of boiled meat, cut it up into little pieces and dry it thoroughly by a water bath. Then grind the desiccated product in a coffee mill, of which the teeth are made to approximate as closely as possible. You thus get a powder which is somewhat coarser than that made by the pharmaceutical houses, but of an agreeable taste and which answers the purpose very well.

The meat powders of commerce ought to show muscular fibres under the microscope; they ought also to undergo peptonization with great facility. This peptonization, according to Yvon, corresponds to 70 or 74 per ct. of the weight of the powder.

Leaving to one side what pertains to the usage of these powders in super:alimentation I shall concern myself here only with their application to gastric and intestinal affections.

Wherever practitioners are in the habit of recommending raw meat as a restorative (and this valuable nutrient has been in great vogue everywhere since its uses were first pointed out by Weiss, of St. Petersburg), they should now substitute meat powders, the superior advantages of which are as follows: greater nutritive value, the powder of meat corresponding to five times its weight of raw meat; much more ready peptonization by reason of the pulverulent state; lastly, freedom from the danger of tænia, an evil which has often attended the ingestion of raw meats.

We have at various times attempted to mix divers feculents, as pea-flour, rice-flour, Indian meal, with our meat powder; to-day these mixtures are pretty generally abandoned, as broths made in this way when taken hot have a very disagreeable odor, and it is found that the meat powder is much less offensive when administered cold. I am much in the habit of giving this nutritive powder in the form of milk punch, stirring two tablespoonfuls of meat powder into a pint of old rum and milk, or whisky and milk (any good liquor can be substituted for the rum or whiskey, and the quantity of the spirits can be varied at pleasure); the whole may be taken at once or at several draughts. This meat grog is especially applicable to the treatment of pulmonary tuberculosis; in affections of the stomach you ought to use it sparingly on account of the alcohol in it. In gastric affections you may give the powder in plain milk or milk sweetened and flavored with vanilla, or you may give it in chocolate or prepared cocoa.

Lastly, when you use the stomach tube to practice "gavage" it will be sufficient to mix the meat powder directly with milk, but you should have care always to pour in a little milk at the end of the operation, in order to clear the tube of any meat particles which may cling to its sides, to be left in the pharynx on withdrawal of the sound, and to annoy the patient by their disagreeable taste. I always make it a point to terminate each "lavage" by a "gavage" of milk and meat powder, and I have always obtained good results from this practice. This meat powder will not only render you service in cases of dyspepsia with anorexia, and in connection with your local medications of the gastric mucous membrane, but also in the treatment of diarrhœa, as we shall see in the next lecture when I come to speak of the new modes of treating intestinal diseases.

Should Experiments on Animals be Restricted or Abolished?*

By Robt. Meade Smith, M. D., Professor of Comparative Physiology, University of Pennsylvania.

(*Continued from page 449.*)

CHICKEN-CHOLERA is a disease as fatal to poultry as anthrax is to cattle, and it also has been found to be due to the presence of a *bacillus*, which is capable of cultivation, in which process it loses its virulence, and when inoculated in healthy poultry, confers immunity from the disease. For this discovery, also, are we indebted to Pasteur. He found that when a minute particle of blood from chickens dying from cholera was placed in sterilized chicken broth, and kept at the temperature of about 30° C., immense numbers of micrococci developed for two or three days, and then settled as an opaque deposit to the bottom of the culture fluid, and there remained without change, provided access from all external impurity was prevented. Thus treated, a drop of the culture fluid, after shaking, is as virulent as the original blood, and injected into chickens or rabbits, rapidly produces fatal cholera.

But if a series of cultures are made, allowing intervals of several weeks or even months to elapse between the periods when active development takes place and the commencement of the next cultivation, there is a gradually decreasing energy in the virulence of the fluids, so that a point is finally reached when the injection of a drop of this attenuated virus into the muscle of a chicken produces either a transitory local inflammation, which never proves fatal and soon passes off, or else no visible effect; while complete immunity to cholera, lasting for a year or more, is acquired.

It was further proved that this reduction in the energy of the choleraic virus was due to the action of the oxygen of the atmosphere, for when the cultures are carried on in hermetically sealed tubes, no decrease in virulence takes place, no matter what the interval between the different series of cultivations may be.

By this means chickens may be vaccinated against cholera with even more positive results than is the case in human small-pox.

Contagious pleuro-pneumonia in cattle is a disease with which we in America are unfortunately but too familiar; and yet in 1850 the question as to its contagiousness was still undecided. At the suggestion of Dumas, a commission was then appointed to investigate the subject, and the result of their experiments was to prove that the disease was communicable, not only by cohabitation in 50 per cent. of the exposed cases, and of these 70 per cent. proved fatal, but that it was also transmissible without contact, through the atmosphere. The experiments of this commission further showed that when once affected with this disease, the animals which recovered had acquired immunity to subsequent attacks.

Experiments as to the preventive power of inoculation were also made by the commission, which, although not carried far enough to be conclusive, showed the direction in which other experiments

*Introductory address to the course on comparative physiology.

should be prosecuted; and, profiting by their experience, Dr. Willems, of Hasselt, Belgium, found that in 54 cases inoculation at the root of the tail with fluid taken from the lungs of animals dying of this disease conferred complete immunity in 38 cases, though the operation proved fatal in 6 cases. Similar results were obtained by Dutch and Belgian commissions.

Thus a French commission kept 34 vaccinated and 24 non-vaccinated cattle in close contact with other animals which were infected with this disease. Of the vaccinated animals only one, *i. e.* 3-per-cent, contracted the disease, while of the non-protected 14 were affected, *i. e.* 57-per-cent. So also in the Veterinary School in Utrecht, 21 vaccinated and 5 unvaccinated cattle were placed in a stable with 6 animals suffering from contagious pleuro-pneumonia. During thirteen weeks not one of the protected animals was infected while four of the five non-vaccinated died.

But although these experiments were commenced more than thirty years ago, it is only comparatively recently that their true value has been recognized. Up to 1878 contagious pleuro-pneumonia was so prevalent in Holland that the importation of cattle from that country was strictly prohibited by all its neighboring states. A law was then passed in Holland which made compulsory the vaccination of all cattle in infected districts, and the effect has been that the disease has been there nearly entirely eradicated; in fact this success has been so complete that it was at one time almost impossible to procure fresh lymph for vaccination purposes.

All that could be urged against vaccination as a preventive of this disease was the occurrence of marked inflammatory reaction at the point of inoculation, which is usually in the tail; but the value of the method is now so clearly recognized that tailless cattle are especially valuable. The mortality from the operation, according to the statistics published by the Dutch Government, is only four-fifths of one-per-cent., and since Vorriest and Bruylant, professors in Brussels, have discovered a successful method of cultivating a protective lymph there is no reason that vaccination as a preventive of this cattle plague should not ultimately become a universal method. At present Holland and France are the only two countries where it is compulsory. It is to be hoped other countries will soon imitate their example.

So also swine plague has been found to be due to the presence of an organism of the same character as that of anthrax and there is every reason to believe that by a similar system of cultivation and inoculation this extremely contagious and fatal disease will be finally subdued.

Again, sheep small-pox resembles the same malady in man, but is not prevented by vaccination. We may with every reason believe that inoculation with the cultivated virus will prove as beneficial in this disease as vaccination in arresting the spread of human small-pox, though as yet all attempts at obtaining a sufficiently attenuated virus have failed.

For a long time glanders was known as a fatal disease to which horses were liable, but it was supposed to be an ulcerous disease of the respiratory organs, due to general causes, such as extremes of heat or cold, fatigue, dampness, unhygienic surroundings or insufficient or improper food, and studied in horses alone was supposed to be extended only by a community of the general causes above alluded to. Studied in man alone, its true origin was not recognized, and what we now know to be glanders in man, was described as "putrid fever," etc. Rayer was the first to prove, experimentally, that glanders, previously regarded as a non-contagious disease, was communicable from animal to animal and even to man, and by inoculating the discharge from a man suffering from the so-called "putrid fever" into a horse was able to produce well-defined glanders. Saint-Cyr, after the contagiousness of acute glanders had been recognized, proved that chronic glanders, previously regarded as non communicable from animal to animal, was also strongly contagious, by inoculating an ass with the fluids from chronic glanders. This animal is strongly susceptible to glanders virus, and chronic cases in horses, in which the contagion is not strongly marked, if brought into contact with this animal develope a violent form of the disease, which is again transmitted in its aggravated form to horses. Often the only means of forming a diagnosis of this disease, especially in its chronic form, is by inoculation into healthy animals. The value of this diagnostic point cannot be over-estimated, and is alone worth all the experiments that have ever been made on animals; for as glanders is, as yet, incurable, the existence of a single case of unrecognized glanders endangers the life of every animal and man in the neighborhood. But if recognized early in its course, by the timely isolation or the destruction of the subject in which it appears, the loss of immense numbers may be saved.

It has long been known through experiment that tuberculosis, or consumption in cattle, was not only contagious in cattle, but through means of their infected milk or flesh when used as food, was capable of transmission through numbers of species of animals, among whom man does not escape, and the organism, which in all probability is the cause of this disease, has only recently been isolated.

From analogy we may hope that proper cultivation of this virus will add another to the list of diseases which experiments on animals have placed under our control.

The latest addition to the already long list of diseases which have been brought under control through experiments on animals, promises to be the most valuable of all. In the International Medical Congress, which was held this summer in Copenhagen, Pasteur announced the results of the studies which he had been carrying on for the last four years, as to the possibility of preventing rabies. Every disease, and especially such a disease as rabies, immediately makes one think of its cure; but to set oneself forthwith to search for remedies is to expose oneself to what is only too often a fruitless labor. It is in a manner to trust to accident for advance. Better far is it in the first place to study the nature of the disease, its cause and development, with the hope of thereby discovering means of preventing it. The fact that the problem of rabies is no longer insoluble, is distinctly due to these methods.

Thus it has been proved that the virus of rabies always develops itself in the nervous system, in the brain, the spinal cord and nerves, and in the salivary glands, and never simultaneously invades every part. It may, for example, fix itself in the spinal cord and then attack the brain; or, one may find it in one or

more parts of the brain and not in others. The sole point in which the virus of rabies is invariably localized in all cases of rabies, and all cases are invariably fatal, is in the medulla oblongata; and if the virus extracted from this portion of the nervous system is inoculated on the surface of the brain of a dog, rabies is uniformly produced. These two facts were the starting point for the discovery of a means of preventing this disease, which never arises spontaneously; but by themselves they would be of minor importance had they not led to the discovery of a method by which the virus of rabies might be so attenuated as to permit of inoculation without producing dangerous symptoms, and at the same time confer complete immunity to the disease. The great difficulty that was met with at the outset of these studies was to obtain some standard by which attenuation of the virus might be recognized; for, as is well known, after being bitten by a mad dog, there is nearly always the greatest difference in the duration of the period of incubation before the disease becomes manifest. Pasteur, however, found that while this period of incubation was very variable, according to the different modes of inoculation, it was uniform when the virus was injected under the arachnoid membrane, the interference with the length of the incubation period after a bite or intravenous injection depending upon the quantity of the virus which reaches the brain, while after inoculation into the brain the incubation is inversely proportionate to the strength of the virus.

Having thus established a means of recognizing degrees of virulence in the poison of rabies, the next step was to artificially produce such an attenuation of virus as to produce no dangerous symptoms, and yet confer immunity from the disease.

Jenner was the first to propound the idea that the poison which used to be called "grease" in horses, but which we now describe as horse-pox, must be attenuated in virulence by being transmitted through cows before it could be introduced without danger into the system of man. This led Pasteur to think that the rabies virus might be attenuated by passing it through the bodies of other animals. Many attempts were made, but in the majority of cases, instead of decreasing the poison gained in virulence. Fortunately, however, in the monkey an animal was found which possessed the peculiarity of attenuating the energy of this virus. Successive transmissions from monkey to monkey produced a virus with a gradually increasing period of incubation on again being transmitted to other animals, though if continued again through a series of animals more susceptible than monkeys to the virus, the original virulence was regained. The application of these facts yielded a method of vaccinating as a protection against rabies. The starting point was one of the rabbits which had been inoculated from monkeys to such a degree that hypodermic or intravenous injection did not cause death. The succeeding protective inoculations with the extract from the brains of the rabbits which had been the subjects of successive transmissions of infection from rabbit to rabbit, proceeding from the first infected.

To demonstrate the truth of the protection against rabies conferred on dogs by this system of inoculation Pasteur submitted to a commission appointed by the French Minister of Instruction, nineteen dogs thus rendered insusceptible to rabies, while the commission selected nineteen other trial dogs not thus protected. The commission report that in the case of the nineteen trial dogs, of six that were bitten, rabies occurred in three; of seven that were inoculated in a vein it occurred in five; and of five that were inoculated by trephining it occurred in all, while not a single sign of rabies has shown itself in any of the nineteen protected dogs, though they were treated in the same manner as the trial dogs. The commission are at present engaged in experiments as to the insusceptibility to rabies of twenty dogs vaccinated by themselves, but their report has not yet been made public.

Thus we have seen that in clearing up the processes of disease, in devising means of prevention and in limiting the spread of contagious diseases experiment on animals is absolutely indispensable, both for the good of animals and of man. For if man benefits, so do animals; a discovery which averts disease in one will probably protect others. Every advance in knowledge is a benefit to all. To prohibit resort to experiment would be at once to doom animals, which we are bound to protect, to the endurance through all time of diseases which might otherwise be overcome. This has been our experience in all diseases which have not yet been capable of experimental study and we may reasonably hope that the future will greatly extend the scope of our field of action. One thing is, however, sure: Experiment is the only possible avenue by which such success can be reached.

Cocaine.—The Active Principle of Erythroxylon Coca.—The New Anæsthetic.

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ERYTHROXYLON coca is indigenous to the various equatorial countries of South America, where the Peruvian bark tree grows. It belongs to the Linnacean family. It is a small tree, from six to nine feet in height. In Peru, Brazil and Bolivia it is cultivated. The trunk of the tree is covered by a rough, glossy bark, the branches bear alternate leaves, very variable in size, elliptical, of a greenish color, though of a darker color on the outside than on the inside. The leaves possess distinctive characters in the distribution of the veins running by the sides of the middle fibre in the form of two longitudinal lines, which separate at the base of the leaf, but meet again at the point, thereby describing a slight curve. The roots end in delicate rootlets. Its flowers are small and usually of a greenish yellow color, found solitary or in groups. Its fruit contains a seed which is sown to raise the tree. The young plants are delicate and must be protected from the heat of the sun's rays. Its growth is very rapid. It blossoms at the end of from four to six months and soon yields seeds. In the course of about five years it attains its complete height, which is about seven to nine feet. The plant gives its first crop about the end of 18 months, when the leaves are carefully picked during the dry season. For many years there has been a great demand for coca leaves. In 1851 the production of coca leaves in Bolivia was estimated to be over 4,600,000 kilogrammes, and in 1859 the same govern-

ment collected a revenue of 1,500,000 francs from coca.

In many countries coca is cultivated extensively, so that the harvesting of the leaves occasions as much rejoicing to the natives as does harvest or vintage time to our farmers. The leaves must be treated very carefully. By the natives of Peru they are looked upon as sacred, and in 1825 they had coca placed in their coat of arms. Attempts have been made to acclimatize the plant in Europe, but with the exception of a few specimens found in botanical gardens, it seems to have been a failure, since the plant not only requires a high temperature, but also a peculiar soil, which is found in but few countries. The value of coca leaves was already known to the South American Indians when the country was first discovered, and among the poorer classes they circulated as money. In many instances foreigners ascribed the belief in its virtues to superstition, but before long they were convinced that the natives were not wrong in placing such a high value on the drug. In 1774 the constituent principle of the coca leaf was first studied. Niemann was the first to find an alkaloid in coca, which he named cocaine. One kilogramme of the leaves yielded about two grammes of alkaloid, which was quite bitter, and when applied to the tongue it produced a decided numbness. It has a very alkaline odor, and forms salts with acids. Pure cocaine is in colorless transparent crystals, soluble in 704 parts of water, more soluble in alcohol, and freely soluble in ether. The chemical formula, as given by Niemann,* is C_{32} H_{20} NO_3. Losson recommends the omission of acids in the treatment of the leaves. He precipitates an infusion with acetate of lead; the lead is removed by sulphate of sodium; the liquid is concentrated, carbonate of sodium added, and the whole shaken with ether. The ether extracts the alkaloid in a crude state by evaporation, which is afterwards purified. It has long been recognized that the leaves are a powerful stimulant, acting somewhat, possibly, like tea or coffee, but so far as taking the place of food, this assertion cannot be verified by the physiological experiments on animals, by Moreno (Ann. de Therap.): "it does not supply the place of food, it causes a more speedy death and a greater loss of weight than starvation alone." This is also clearly shown by the Indians of South America, who can undergo hardships and perform great feats of muscular exertion under it, but when they get an opportunity they partake quite liberally of food. When administered internally it causes considerable increase in the action of the heart and of the blood pressure. (Ott.) A feeling of well-being and contentment takes possession of the mind, the sense of fatigue is removed, the drowsiness that is at first experienced soon passes away, and is followed by wakefulness and increased mental activity. It diminishes the excitability of the motor nerves, and in large doses paralyses the sensory nerves.

Coca has but recently been largely experimented upon. Despite its restorative powers, its applicability has been very limited. In 1883 Anrep published a series of experiments with cocaine, made at the Pharmacological Institute of Würzburg, on animals. Bibra had made some observations with this drug on himself under severe and prolonged marching. He frequently, without any food at all during the day, continued marching until night, and then enjoyed a hearty meal as usual. Gardecke, Gorrup and Johnson agree that it is to a body similar to caffeine that the coca leaves owe their action. The more recent experiments of Aschenbrandt, with a muriate of cocaine prepared from the leaves, prove that that is the principle to which they owe their action. A. has found that an individual is rendered more capable to endure hardships under its administration than without it; he can undergo great bodily exertion without experiencing fatigue. The salts that are found in the market now are the muriate, tannate, oxalate, sulphate and nitrate. There are also a few double salts. The dose for man, internally, ranges from $\frac{1}{6}$ to 2 grains. Its action is not cumulative, and the lethal power is slight (Husemann).

Experiments of Frohnmüller appear to show that cocaine is a narcotic, since he was able in fourteen cases to produce sleep by giving large doses (5 grains). What interests us mainly at the present is its properties of a local anæsthetic. In 1868 Moréno showed that reflex movements were abolished for a time when this drug was injected subcutaneously. Von Anrep, in 1880, again demonstrated that the sensibility of the skin was abolished under the same procedure. The same author applied weak solutions to the conjunctiva, and found that it caused a temporary dilatation of the pupil, which was increased by adding atropine. It is a strange fact that Anrep did not notice that the conjunctiva became insensible, or if he noticed it he did not recognize the importance of it. The local anæsthetic effect of cocaine seems to have been noticed independently by a number of persons, but it remained for Dr. Carl Koller to discover the local application of cocaine to produce anæsthesia of the cornea and conjunctiva. A preliminary announcement of the observations of K. was made at the congress of German ophthalmologists, which convened at Heidelberg during the month of September, through his friend, Dr. Brethauer. Laryngologists have used cocaine painted over the vocal cords to produce anæsthesia or analgesia of the larynx or pharynx, for the purpose of facilitating examination. This already was a discovery that would make the drug invaluable to specialists, but when Koller discovered its action on the cornea and conjunctiva, it undoubtedly marked an era in ophthalmic medicine and surgery that will be as beneficial to suffering humanity as the discovery of chloroform. Until now, reports from clinics, that are to be found in almost every journal, are hasty observations. They only embrace the history of its action in a few cases—experiments that are only a few days old. We sincerely hope, though, that this remedy may not meet with the same result that so many new and apparently efficient drugs meet with.

The demand for this agent will, in a short time, supercede the supply, since its application does not require a special knowledge, nor can any harm be done with it when applied locally, even in strong solutions (5%). We have here only one fear, that the drug will not come into general use on account of its expense. Losson states that the best quality of leaves only contain one-fifth of one-per-cent. of the alkaloid, while the poor leaf yields only about

(*) U. S. Dispensatory, Wood & Bache.

one-sixtieth of one per cent. The price per pound of the dried leaves is seventy cents in Bolivia or Peru. The crystal is quite difficult to make, since it is very deliquescent; so add the cost of the crude drug to the labor, the alkaloid as employed at present for the purpose of producing local anæsthesia, is necessarily quite expensive. It has been claimed that the chemical composition of theine and caffeine, or the neutral principles of coffee and tea, are identical with cocaine; also that the physiological action is similar, so it may be hoped that these agents contain an anæsthetic principle similar to the coca plant; if so, it would be much cheaper and more readily obtained than from the coca leaves. From what can be learned, American surgeons first employed the anæsthetic in operations of the eye and on mucous membranes elsewhere, only after Koller's announcement. There seems to be a great difference between the European and the American observer. The former studies the action of a drug in all of its details carefully, and then publishes his result. He deduces the therapeutic indications from the physiological action as determined in the laboratory. The latter reverses things by making the therapeutic applications according to his clinical observations. The enthusiasm of the American observer is more readily aroused. and subsides just as quickly. The one method is possibly, in one sense, just as correct as the other The only difference is that discoveries in the above field are often accidental, and observations amount to absolutely nothing, unless by chance some fact is discovered. The European experimenter, in most instances, has superior advantages, and can devote his entire time to points of theoretical interest. We can not make a comparison of talent; that is out of the question. It is only his superior advantages that make his observations more thorough.

The first article reported on the subject in this country was by Noyes, of New York, in the Medical Record. Since then the remedy has been applied by a large number of physicians both for the purpose of verifying the statement of others and for the practical benefit that is derived from its use. Foremost among the observers in this, stand the names of Knapp, Roosa, Polk, Seely, Moore, and Levis. The results as reported are more nearly alike than those of any new remedy that has been investigated before. Our hopes can be very much encouraged from this fact, though in all instances the reports were hastily made after the observation of a few cases. At Professor Seely's eye and ear clinic at Cincinnati the agent was employed as soon as we were able to procure it. In all it has been used about 50 or 60 times, with results ranging about as those reported in the Medical Record. That cocaine will revolutionize the treatment of many diseases of the eye cannot be doubted since in many cases the oculist cannot carry out a plan of treatment that would seem to him to yield good results because the patient will not tolerate it, on account of the extreme pain that it may cause. We may mention here the treatment of corneal opacities, a class of cases that have received little or no benefit from the science of medicine. Now with a remedy at our disposal that renders this sensitive structure anæsthetic, it is almost certain that we will be able to record better results. Pricking the opacity with the tatooing needle, without the use of India ink, apparently promises better results than any other plan that I have used, but the extreme pain was the obstruction. To the oculist in private practice the anæsthetic becomes specially valuable so far as he individually is concerned, because he does not need the presence of an assistant for the administration of ether or chloroform. The teacher in the clinic can more satisfactorily demonstrate to his students, since assistants always obstruct the view to such an extent that it is scarcely worth while for an oculist to attempt an operation before a class of students.

Cataract operations can be made more safely on old and decrepit persons, where the general anæsthetic is not safe. Tenotomy of the ocular muscles is made, and the patient is hardly aware of it unless when the strabismus hook is passed to lift up the tendon. Foreign bodies can be removed from the cornea without any trouble; this operation generally is quite simple, but occasionally is annoying on account of intense photophobia that is set up. Photophobia of phlyctenular keratitis, which in some cases amounts to blepharospasm is relieved by one or two instillations of a two-per-cent. solution. A cornea that could not be seen for weeks, due to the pain that the action of the light causes, is opened to view in the course of 10 to 20 minutes after the use of cocaine. Corneal ulcers can be more safely treated. especially since the introduction of the cautery to cauterize the ulcer. In inflammations of the conjunctiva and cornea, cocaine may also play an important rôle when its action is once more carefully investigated, since it seems to be a contractor of blood-vessels. The aural speculum, which was the great bug-bear to the patients of the aurist, is no longer to be dreaded. In short, the poor suffering patient can now be operated upon and is scarcely aware of it. From these indications can any body imagine a remedy that could be more acceptable? But not alone the oculist finds employment for this agent, for numerous membranes other than that of the eye are acted upon in the same manner. Gynæcologists, syphillographers, and the physicians in general practice find use for it. In times past the laryngologist, in preparing his patients for an operation, administered bromine of potash to obtund the sensibility of the throat. Patients prior to an operation had to be trained, so to speak, for weeks in order to become so accustomed to the presence of an instrument in the throat that the operation could be performed. To-day the vocal cords and posterior walls of the pharynx receive an application by the spray or pencil of cocaine of two to five-per-cent. solution, and in the course of 10 to 20 minutes the patient is ready. The drug is not very poisonous; no one need fear to apply it freely, nor does it require any special knowledge to use it. Usually about a two-per-cent. solution is employed, which seems to be strong enough for all practical purposes. Its application to a mucous membrane causes no inconvenience save a slight smarting when applied to the eye. The following is a short report of some of the cases that were treated at Professor Seely's clinic. The physiological action on healthy and diseased eyes was as follows: The drug in a two-per-cent. solution, when instilled into the eye, causes a little smarting, which passes away almost instantly. The impairment of sensibility follows shortly afterward, varying in different cases, and

also according to the strength of the solution. In some cases sensation was impaired to such an extent in three minutes after a single application that the eye ball could be pulled from side to side by grasping the conjunctiva with forceps. In other cases it requires a longer time, but seldom more than fifteen or twenty minutes; all reflex irritability is lost, anæsthesia of the anterior superficial structures of the eye seems to be complete. The duration of this period varies again, but in few cases is it exceeded by one hour. The cornea can be touched with a probe, or pricked with a needle without causing a closing of the eye lids or lachrymation, symptoms which almost always follow irritation of that kind. The pupil dilates slightly, but always reacts to light. In not a single instance even where from eight to ten instillations were made of two drops each, was the pupil dilated ad maximum. When cocaine was employed in cases of phlyctenular conjunctivitis it seems to have a tendency to contract blood-vessels, causing a peculiar pallor, somewhat similar to the action of eserine, though it is not so efficient.

Relative to the accommodation of the eye under the influence of the drug there seems to be a difference of opinion, which may also again be due to the strength of the solution used and the number of times it was instilled. I have never seen the accommodation changed in a single case, but Dr. Knapp* gives a report of the effect on the eyes of members of his own family, that he knew to be perfectly normal. In two instances it apparently caused some astigmatic manifestations, but the accommodative power was restored much sooner than the normal size of the pupil.

In one and one-fourth, or one and one-half hours we could read again as easily as before, though our pupils were still considerably enlarged. I have not seen these experiments verified, though I have seen Dr. Seely make a number of tests. If it is affected at all it amounts to so little that it does not cause any inconvenience in walking or reading. When the drug was used for operative purposes, its action was prompt and efficient, as the following will show:

Case I.—J. W., carpenter, aged 38 applied for the relief of a diverging squint, and since his eyes had been operated on once before, years ago, he begged for the use of an anæsthetic. His wish was granted, but not in the sense that he asked it. A 2-per-cent. solution of cocaine was dropped into both eyes at 2:30 P.M.; in five minutes the conjunctiva could be taken up with forceps without causing special pain. At 2:40 P.M. another instillation of two or three drops was made. After the expiration of five minutes the patient was put upon the operating table, the speculum introduced between the lids, which is generally the most painful part of the operation, the conjunctiva was incised -all without causing the slightest pain—but when the hook was introduced to bring forward the tendon of the external muscle the patient complained severely.

The feeling on the eye is one of numbness, deadness, described by patients as being a feeling similar to that of numbness produced by intense cold on the fingers.

Before the second eye was operated upon, a third instillation was made, but here also the hooking up of the tendon caused just about as much pain as though nothing had been used, showing, at least in this case, that the analgesic effect does not extend deeper than through the conjunctiva. The patient, who seemed to be quite intelligent, expressed his gratitude for having had the operation made with so little pain.

Case II —Willie B., aged 4, applied at the clinic for the relief of phlyctenular keratitis with keen sensitiveness to light. The ordinary mode of treatment was instituted. Salicylate of eserine in a 4 grain solution was instilled, later the yellow oxide of mercury ointment was used, but the blepharospasm was so persistent that it continued for weeks. In the meantime we received cocaine, which was promptly applied with the most astonishing result, the eyelids were opened at once, the lachrymation which prevented the proper application of all remedies, ceased. Now the eye could be examined and treated without any resistance from the patient. In the course of a few days the child was practically cured. On this class of cases the remedy bids fair to become quite valuable, for it seems to possess the power to break up the spasm of the lids which may be only reflex, due to pain caused by the entrance of light to the affected cornea.

Case III —John Hagarty, aged 14, received an injury to the cornea by a burn which caused abrasion of the epithelium. For this he received an eye-wash containing a solution of lead, to be used three times a day, which caused an opacity by depositing the lead. By this the cornea was roughened, keeping up an irritation, causing pain, lachrymation, and extreme photophobia. It was concluded to make an attempt to remove the incrustations of lead, which were quite thick, by anæsthetizing the cornea by means of cocaine. The first instillation was made at 9:20 A.M.,—three or four drops of a 2-per-cent. solution; ten minutes later the conjunctiva could be pricked without causing pain, but to touch the cornea still caused pain. Another instillation was made, thoroughly soaking the eye, so to speak. In the course of ten minutes another trial was made. The condition above described was a little more magnified but the cornea was entirely too sensitive for the patient to tolerate any pricking or scratching. Another instillation was made which did not materially change the result.

After the expiration of 20 minutes, or at about 10 A. M., it was found that the cornea was still sensible to irritation, to such a degree that even pricking with a sharp needle could not be tolerated, on account of pain, and the scraping of the cornea had to be postponed. Here now, is a case where the conjunctiva became anæsthetic in the ordinary time, but the inflamed and sensitive cornea retained sensation in spite of free use of the drug. Was the solution too weak, or had the pathological condition of the structure any effect on the efficiency of the agent? When the patient returned on the following morning the eye looked somewhat brighter, the redness had slightly disappeared, and on the whole looked better than the day before.

Case IV. B. P., aged 38, suffering with inverted eye-lashes, due to granular conjunctivitis, called at the clinic for relief—he was otherwise hearty and sound. The eyelids were thickened, the mucous membrane was hypertrophied. The lashes had been pulled out for a number of years as soon as they

*Medical Record, Oct. 25, 1884.

could be gotten hold of with forceps. It was concluded that an operation was the only means of relief, to which the patient consented. The operation consisted in removing an oval fold of integument from the upper lid, and then by bringing the edges together by sutures, the tissue of the lid being shortened, the tendency would be to turn the inverted free margin of the lid out from the eye-ball. To accomplish the operation an incision was made along the entire free margin of the lid between the cilia externally, and the mucous membrane internally, so as to permit the mucous surface of the eyelid to remain in contact with the eye, and the traction from shortening the integumentary structure of the lid to be made only on the part containing the cilia. While the operation had the desired effect, the anæsthetic employed by brushing it on the thickened conjunctiva and the integument of the lid, did not seem to lessen the pain in the least, though it was thoroughly used three different times at intervals of from eight to ten minutes. A number of other minor operations were performed with good results, especially the removal of foreign bodies from the cornea, and the slitting of the puncta. The thorough opening of tarsal tumors, e. g., chalazion, did not seem to be much benefited by the use of cocaine. The action does not seem to extend deeper than the mucous structures, or we do not know exactly how to apply it, a point which close observation and study will develop in the future. Gynæcologists have employed it, and here we must briefly introduce a series of observations made at Prof. Seely's eye clinic, with muriate of cocaine, kindly furnished me by Parke, Davis Co., after I had tried in vain for two weeks, to procure enough to conclude my observations. The following is a history of the cases as they presented themselves for treatment:

Case I. John Hagarty, aged 12, had excoriation and ulceration of the cornea, with considerable pain and redness of the eye. It was quite sensitive to the light, and teared profusely. I put some cocaine in both eyes to make a comparison on the same case. At 9:21 A. M. put two drops of a four-per-cent. solution in the right (diseased) eye and one drop in the healthy eye. At 9:26 sensibility destroyed in healthy conjunctiva, but not in the cornea. In the diseased eye the cornea and conjunctiva were affected. Made a second application to right eye at 9:27 of two drops —always employing a four-per-cent. solution. At 9:33 both corneæ were completely anæsthetic, and the eyeball could be pressed so hard as to indent it without causing pain or uneasiness. 9:54 sensibility returned in both eyes. 9:56 made a third application to diseased eye. 10:0, sensibility completely abolished. In this case the instillation caused no pain during the time the observations were made, nor at any time following. The following day the patient comes into the clinic with eyes wide open, saying they felt "splendid." The redness seems to be somewhat diminished, therefore the same application was continued, to determine the therapeutic effects of cocaine in keratitis. It may not have a specific action but it relieves pain and sensitiveness to light, which gives relief to tearing and puts the eye in better condition generally, which may be the only therapeutic effect.

Case II.—Mrs. Smith, aged 34, keratitis of the left eye. Has had the eye treated with eserine for a few days, but the pain of the inflamed eye was quite severe; it was also sensitive to the light. Cocaine in left eye, two drops at 9:24; and in the right eye at 9:25, one drop was put. At 9:40, there was complete insensibility of the diseased eye, with slight sensation in the left cornea. At 9:48 there was still complete anæsthesia of both eyes. The patient was sent home, and on the following day she makes the statement that the eyes feel much better, no unpleasant after-effects following the first treatment; cocaine continued.

Case III.—J. Morgan, aged 38; ulceration of the cornea on the right side. The ulcer was large and of about two weeks' standing, causing a congestion of the whole eyeball almost out of proportion to the pathological condition. The pain was constant and severe; the eyelids thickened and painful. Concluded to use cocaine as an experiment. At 9:23 A. M., I instilled 2 drops in the right eye and 1 drop in the healthy eye; at 9:29, the healthy eye was anæsthetic, but the diseased eye was just as sensitive as always; at 9:30, 2 drops more in diseased eye; at 9:36, the diseased eye was completely anæsthetized; at 10:15, both pupils were widely dilated, more so in the healthy eye, where sensation was beginning to reappear. On the following day the patient made the statement that the eye had felt better than when eserine had been put in, since that caused a headache. I concluded to use eserine, and determine the action of cocaine on the pain that the use of eserine causes. I found that it almost relieves it completely. Dr. W. W. Seely tells me that he had already made the same observation some days ago, that the latter drug counteracts the pain of eserine. If this effect is constant and can be verified by other observers, it certainly is a point that becomes valuable to the oculist.

Case IV.—Baby, with phlyctenular keratitis on both sides, with intense blepharospasm. Made an instillation of cocaine at 10:04, 2 drops in each eye; at 10:18, no effect, so another drop was added in each eye; at 10:28, no effect being noticeable, instilled 2 drops more, making in all 5 drops of a 4% solution in each eye, save what was lost by the profuse lachrymation of the eyes. In this case I was compelled to record the results negative, but on the following day the mother stated that the child had opened the eyes nicely after arriving at home, which continued right along, so the results, therapeutically, seemed to be better than experimentally. The treatment was continued on the following day, 2 drops of cocaine to each eye.

Case V.—Frank Hesh, aged 17; marginal keratitis and scooping ulcer of the cornea on the right eye. Used cocaine. At 9:59 made first instillation to both eyes. At 10:03, sensation in healthy eye was abolished; it seems always to commence first on the conjunctiva, the cornea apparently requiring a longer time. At 10:07 the sensation in inflamed eye had also disappeared, so that the cornea, to the patient's astonishment, could be touched without paining him.

Case VI.—W. Brown, right eye, excoriation of the cornea at the sclero-corneal junction. The inflammation in this case was semi-chronic, had existed for some weeks, resisting the action of eserine and the mercurial ointment. Tried cocaine. Put in 2 drops in the diseased eye and 1 drop in the healthy eye. At 10:15 and at 10:18, a probe could be passed over both corneæ without causing pain; tearing ceased, and all reflex action seemed to be cut off. The

same treatment was continued from day to day, with apparently good results.

Another class of cases was where the lachrymal apparatus was affected. The operations sometimes required for relief are not often very extensive, but very painful.

Case VII.—Mrs. D., stricture of the lachrymal canal, with a feeling when passing the probe as though there was some denuded bone. The passage of the probe always caused excruciating pain, and yet it was necessary in order to get the water from the lachrymal syringe to pass through. I made a 2% solution, and injected a little into the lachrymal passage, and in the course of six minutes I could pass the probe without any pain.

Case VIII.—Mrs. H., eversion of the puncta lachrymalis. Instilled two drops of the solution into the eye, and brushed over the papillæ a few times. The puncta was slit up about five minutes later, causing some pain, more, in reality, than should have been felt, but the lapse of time was too short to have obtained the full effect of the cocaine. A weaker solution was now thrown into the lachrymal sac with a syringe, and in the course of ten minutes a probe could readily be passed without any unpleasant effect, while the pain otherwise is often very intense, causing patients to faint.

Case IX.—Miss G., aged 16, complained of a large chalazion at the inner angle of the lower eyelid of the left eye. The pain in these affections is dull and continuous, on account of the great swelling. I applied one drop of cocaine, and five minutes later another drop was instilled, while the swelling was brushed with the same solution a few times. When the tumor was evacuated the pressure caused more pain than the puncture. It, undoubtedly, requires a longer time to deaden the sensibility to such an extent that cutting the tissues will not cause pain, especially in pathological conditions where there is hyperæsthesia. The effect of the drug on the accommodation and the size of the pupil has been differently reported, so I made a number of observations on students, with results as the following will indicate:

Case I.—C. N. H., student. At 9:42 put one drop into the eye. At 9:47, sensation abolished; the eye can easily be touched with the end of the finger. H.'s near point for No. 1 Jæger test types was five in. Still remained the same at the above time. At 10:07 the pupil was somewhat dilated, but contracted readily when the face was turned toward the light. Accommodation was not affected.

Case II.—25 years old, W. H. P., emmetrope, medical student. At 10:44 put one drop of a four-per-cent. solution into right eye. At 10:53 A. M. the pupil commences dilating, but there was no effect on accommodation as yet. At 10:56 the near point which had been 6 inches for No. 1. Jæger moved off to 7½ in.; the pupil was a little more dilated. At 11:05 dilation marked, accommodation the same as it was at 10:56; 11:15 same as the above test. On the following day P. stated that unless an operation was to be performed he would not tolerate any more of the drug. It caused some headache until 10 o'clock at night.

Case III.—student aged 22. Eyes normal, pupils both reacted normally. Put one drop of the same solution in at 10:51. Near point was five inches. At 10:56 pupil began dilating, but the accommodation was not in the least affected. At 11:01 pupil in same condition, slightly dilated and reacts very readily. At 11:15 still remained the same.

Case IV.—J. H., student, aged 22. Normal eyes. Tested the near point of the right eye, which was six in., and then put one drop of cocaine in at 10:45. At 10:53 very little dilatation of pupil. At 11:04 pupil the same, and accommodation changed so as to remove the near point one-half inch. At 11:15 the case remained stationary.

Case V—S. O. G., student, aged 24. Eyes normal. Near point seven in. One drop of the solution of cocaine at 10:44 in the right eye. At 10:51 no dilatation. At 10:53 pupil slightly larger than on the opposite side, but accommodation not affected. At 10:56 accommodation remained the same. At 11:04 the near point was removed 1¼ inches. At 11:15 the appearances were still the same.

Case VI—N. H., student, aged 19. Both eyes normal. Pupils readily movable. Made an instillation of cocaine. At 10:44 two drops in right eye. At 10:51 no dilatation and no effect on accommodation. At 10:53 pupils beginning to dilate. At 10:56 pupils little more dilated, but accommodation unchanged. At 11:04 the result was unchanged; at 11:15 the same.

Case VII—Student aged 23. Applied two drops to the right eye, which was normal, and in 10 minutes there was no effect on accommodation or pupils. Made a second application, which did nothing more than destroy sensation and slightly dilate the pupil.

Since there has been some discrepancy as to the effect on accommodation, as reported by various observers, my conclusions were as Dr. Seely suggested: "Dilatation and paralysis of accommodation go hand in hand. Where we find a case in which the pupil dilates easily accommodation is readily affected." I found this to hold true in the above experiments, and if so, there is an excuse why the reports should vary. I have not studied the medicine long enough to come to any definite conclusion on the subject. Let the reader experiment for himself and then compare results.

I think I have noticed that occasionally a subject is found in which it causes headache. I have worked with it for three and four hours at a time, and the peculiar penetrating odor, though at first not unpleasant, caused nausea and dizziness, which lasted for 24 hours. It had almost the same effect as the inhalation of nitrite of amyl. The favorable reports with this drug from all observers has caused quite a demand for it.

393 Elm Street.

Jequirity—Some Practical Points in its Use.

By C. W. Tangeman, M. D., Cincinnati, Ohio.*

CAN the readers of the Gazette excuse another article on the subject of jequirity? This drug has not quite met the fate of so many new remedies—to be tossed around a while, praised by many, but suddenly sink into oblivion, out of sight even from those who praised it the highest while it was a novelty. Jequirity will positively never merit such a fate. It is a remedy above all others that finds indications almost the world over. All that is required

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to obtain good results is to use it properly. While we may not be able to add anything new to the action of jequirity, we are able to present to the profession a preparation of the bean in a fluid form that is always ready for use. The efficiency of the drug in this form is not diminished. It can be kept perfectly well in an ordinary room temperature. I am indebted to the firm of Parke, Davis & Co. for their kindness in preparing for me the fluid jequirity. The liquid, when prepared without the cortex of the bean, is of a straw color; it has the same peculiar odor found in the infusion of the seeds, and causes little or no pain. It is a known and established fact that with many new and active remedies the investigator publishes his observations rather before he has thoroughly investigated, thereby making known to the general practitioner something that is of more damage to him than it will ever benefit him. That the average practitioner of general medicine is not competent to make observations, for a number of reasons, is not to be wondered at. Atropine, a drug that has long since become general property, is not understood in its action as it is known to the profession, by more than one out of ten physicians, while the opportunity for study has existed for years. Few men become good experimenters, since their habits of observation are not accurate enough; others have not the time, while a still larger number have not the opportunity.

That everybody is liable to commit an error is plainly shown by the instructions given by De Wecker as to the employment of jequirity. He has been compelled to acknowledge that he is guilty of a mistake—a mistake that has cost more than one eye that could possibly have been of valuable service to the patient. Such men even as Jacobson, of Kœnigsberg, report the destruction of eyes from of the use jequirity. He, although his chances for observation are unlimited, blindly follows the rules of De W. with bad results, and then condemns the use of the remedy without reserve. Had he been more cautious and independent in his observations, he might have saved his patient's eye. But the great trouble is, we are so apt to follow the footsteps of others, and have no independent, definite ideas of our own. I have yet to see a single instance where even an unpleasant symptom, aside from a little pain, has been complained of in the hundreds of cases in which I have applied it at Prof. Seely's clinic and in my private practice. My object has been to do as little as possible, and not excite an inflammation that will endanger the eye. I never make more than one application before the eye has recovered fully from the effects of the first dose. If this plan is carried out, I defy the opponents of jequirity even to produce a reaction in the eye that will cause any serious trouble. It does not matter how strong the infusion, you cannot produce bad results with a single application. I have employed it in ulceration of the cornea with the happiest results. When De Wecker stated that the cornea is not exposed to any danger if the remedy is properly used, he stated the truth as far as my experience has gone, but I never followed his directions, simply because he gave them. I make my own observations, and have come to the conclusion that in every instance where bad results follow the use of equirity, the physician is at fault, and not the remedy. What would the world think of an individual who administered three or four very large doses of morphine, and continued this practice for three days, simply because the patient was not in the most profound stupor; and finally, when bad results and toxic symptoms set in, opens a tirade of abuse against the remedy? Can anything more inconsistent be conceived? Hirschberg only shrugs his shoulders, and says: "Jequirity and its use in conjunctivitis granulosa has only a theoretical interest for me." Are we to infer from this that he cures all of his cases with other remedies, and does not need the assistance of anything new? If so, would it not be of practical value to him to publish his cases, results, and the means by which he cures them? It is quite well known to the profession in general that this class of cases were the most discouraging to treat, and in many instances the treatment was carried out for years, and the case ended up in a total destruction of the eye. Notwithstanding all this, an individual gets up and states that a remedy which is said to cure granulations has only a theoretical interest—all of this before he has made a single observation with the drug itself. What can such an opinion be worth? Simply nothing. It only shows that the individual is an obstructionist in medicine, and science would make more rapid progress without him than with him.

To all the world, save H., it was an agreeable surprise to learn of the new remedy, not only theoretically, but practically—a remedy that would command a halt to the dread disease, found alike in the hut and in the palace, in almost every clime of the globe, destroying the usefulness of the most valuable organ of the body. The literature of the subject is not easy of access; it is very much scattered; but this is clear to us, that of the reports where the results are good we can verify every symptom, while of the more discouraging results, to quote Dr. Seely's language, "We have never seen bad, not even discouraging results; where treatment did not accomplish as much as could be wished for, it never did any harm in our hands at the clinic." While this is not claiming anything special for the curative action of jequirity, it is intended to show that bad results do not necessarily follow its use. It matters little what condition the patient's eyes are in; they are always safe when jequirity is properly applied. It has been pretty satisfactorily demonstrated that to cure granulations by jequirity, it is not necessary to cause a purulent inflammation. Since this is not a prerequisite, why run the risk of causing a damage to the eye by making an effort to cause a purulent inflammation?

When De Wecker states, in one of his papers, that jequirity in granulations can be compared to quinine in intermittent fever, he certainly does not intend the inference that it is an infallible remedy in granulations. Quinine is not applicable in all cases, nor is jequirity. The former remedy produces very unpleasant effects when administered to some patients. Must the remedy, therefore, be condemned, or the individual who has labored to enrich the science of medicine be compelled to defend himself against the whole world, simply because he does not satisfy every observer as to the physiological action of the agent? If we tolerate this, we can ask the question: What do we know about any other drug? If the time spent in giving vent to personal feeling were used to properly investigate the physiological action of jequirity, possibly its action and applicability would

not still be an open question. It certainly cannot be condemned, since it *appears* to some that it will not become a safe remedy to put into the hands of the general practitioner. Vossius, of Kœnigsberg, makes a comparative test of a *few cases* by using the infusion of jequirity in one eye and astringents in the opposite eye. Have we not passed astringents long since? Are men not convinced that trachoma can be treated better than by the use of astringents? This question scarcely admits of argument. Can any one point out an eye clinic where chronic granulations are treated, and where there are not cases making application for treatment that these same individuals have treated ten or fifteen years ago? Who has not seen eyes go out, absolutely and hopelessly lost, under the astringent, caustic plan? Those who have not, can see it at their own leisure at some of the large eye clinics. Has the whole world, the general practitioner as well as the specialist, not been clamoring for a new remedy, or a new method of treating this class of cases, and for no other apparent reason than that astringents were not satisfactory? This is the most powerful argument against the use of the old remedies. Jequirity is suggested, and found to be quite efficient; but since it was first brought into notice by a physician of another nationality, or for some other personal motive, our German brethren cry down the drug, or sneer, before ever having given the remedy a trial according to directions laid down for them, to say nothing about experimental research. Those who have employed jequirity to cure granulations, and not to see how much injury it would do, certainly must be conscious of a feeling that we possess a remedy not to be undervalued, even though it does not cure, without fail, every case that comes for treatment. The physiological action of jequirity is possibly not so well known to day as we supposed we knew it months ago; but since the bacillus theory was the only one that was offered at the time, it was accepted by many, but as soon as a more plausible theory is discovered, its acceptance need not be doubted. That jequirity is efficient cannot be denied. To make an infusion, according to De Wecker, it required at least 24 hours, therefore it could not be used when the patient made the first visit. The infusion decomposed in the course of three or four days, making it very unhandy to the busy oculist; but this is all done away with. The drug is prepared for us in the pharmaceutical laboratory, the same as a fluid extract of some other drug, and is always ready for use. The menstruum consists of 2 parts of water to 1 part of glycerine, to which 5% of strong alcohol is added, but this, possibly, is objectionable, if not unnecessary, since to apply a liquid containing alcohol to the conjunctiva causes somewhat of a smarting, which lasts but a few moments. One part of beans to 10 parts of the above menstruum, is the strength of the fluid jequirity. Whether the active principle is an alkaloid, remains to be settled. Both Sattler and De Wecker had an alkaloidal principle prepared, which they employed with negative results. This conclusion may be of little value, since the process of manufacture might have destroyed the efficiency of the jequirity. The odor is the same as in the fresh infusion, and the mode of applying it to the conjunctiva can be the same as when the infusion is used, namely, a small pledget of cotton is wrapped on a probe, which is saturated in the fluid, and then carefully brushed on the conjunctival surface of the irritated eyelids. The result is, that in the course of six or eight hours the eye has the appearance of an ordinary slight catarrhal conjunctivitis, which increases in severity in all of its symptoms until, at the lapse of 24 hours, there is a thin croupous membrane formed all over the conjunctival surface. The whole picture is one of a specific blennorrhœal inflammation in miniature; the reaction is not quite so marked.

At Prof. Seely's clinic we have made an attempt at increasing the range of applicability of the new drug, as will be seen from the history of the cases appended below. It has been applied in cases of corneal inflammation, just where one would think it would positively cause injury; in cases of ulcus serpens corneæ, where the inflammation is sluggish and chronic. As Kuhnt, of Jena, says in this class of cases: "I practice covering the floor of the ulcer with a conjunctival flap from the immediate neighborhood, which increases the succulence and vascularity of the cornea, thereby hastening the process of repair." To make an application of jequirity in these cases seems to engraft an acute process on the chronic conditions; and while it may be dangerous to recommend the use of this drug for the purpose of curing corneal diseases, it has proven quite efficient in my hands, nor has it caused a single untoward symptom in this class of cases. Its use for the treatment of old cases of trachoma with inveterate pannus, where the vessels extend over the entire cornea, sometimes giving it the appearance of a fleshy mass, is, in many instances, almost marvelous. A single application is occasionally sufficient to clear the cornea so much that the patient will request another course of treatment. The pain which it causes is so inconsiderable that few patients speak of it, after they have gone through a course of caustics. What the active principle of the drug is, its exact nature and how it acts, is difficult to state. The sample of fluid prepared for me I subjected to a number of tests; by evaporating the fluid over a water bath, only the watery element can be removed, while the glycerine remains. I extracted a gummy substance by means of ether, but a resin or an alkaloid could not until now be obtained. Strange to state, the evaporated fluid to the consistency of thick syrup, the gum, and also a portion of the fluid treated with ether to obtain an alkaloid, were all inert; when applied to the conjunctiva they failed to set up any reaction whatever. Does heat destroy the efficient principle, leaving the fluid inert? If it is due to a vegetable ferment, as was claimed by many opposed to the bacillus theory, then what is the action due to in the fluid where there is no fermentation taking place—where the fluid is precisely as efficient four months after it is made as when it is fresh? In reality, it matters little whether the action is due to a ferment, a bacillus, or something else, considered from a practical standpoint; but theoretically it would be quite satisfactory to know the exact physiological action of the drug. The fluid jequirity is a very eligible preparation, because it is always ready for use whenever a patient may apply. Nor does it decompose as does the infusion.

The following cases are briefly described where the fluid jequirity was employed, not so much to show that the drug is efficient, since that cannot be disputed, as that it positively does no harm, even in cases where

certain structures of the eye are acutely inflamed. The first that we will describe was a typical case for the application of a test remedy—chronic trachoma, with the usual complication of pannus. Both eyes were affected, and had been treated by astringents and caustics for a series of eight or nine years, with the result that we too often find in this class of cases—no eyes at all. Adam F—— made application at the clinic for the relief of sore eyes. He had to have a guide to lead him. Said his eyes were treated with blue stone for the past year and a half, but he could notice only a diminution of the sight, until he was practically blind. Dense pannus covered both corneæ; on the right side it might have been mistaken for a fleshy mass, admitting no light at all; while on the left side, a narrow rim of clear corneal tissue could be seen below. The mucous membranes of the lids were thickened and very much roughened. The tear passages, from the long-continued inflammation, had become closed, the eyelids were everted, the ridges thickened, the tears all passed over the cheeks; in short, the patient presented an appearance that was most disheartening to any surgeon; and without the faint glimmer of hope that jequirity might possibly do some good, an honest man would have declined treating the case for the ordinary remedies had all been faithfully applied for months. Here now was to be as unbiased a test as could be asked for, and if the results proved to be good, this one case would certainly counteract all of the bad results that jequirity produced *per se*. We must always keep in mind that a remedy cannot be made responsible for a physician's ignorance or blunders. This was the first case in which I concluded to give the fluid preparation a trial, for the case was one where the sight could not be injured. The first performance was to establish a passage for the tears, without which a remedy cannot be expected to act properly in the relief of chronic trachoma, or any other conjunctival trouble, for that matter. On the following day the fluid jequirity was applied in the same manner that I formerly applied the infusion, by means of a little absorbent cotton wrapped on a probe. The conjunctival surface of both upper and lower lids, on both sides, were carefully treated, and the patient returned to the ward. The application of the fluid caused little or no pain, despite its containing alcohol and being a great deal more concentrated than the former preparations. In the course of six or eight hours a reaction was noticeable, which need not be minutely described here, since it has been so thoroughly given in some of the preceding numbers of the GAZETTE. Suffice it to say that the remedy set up a beautiful inflammation, which was allowed to run its course undisturbed. At the expiration of twelve days the visible effects of the application had disappeared. Now the use of eserine and the mercurial salve was employed, once daily for two weeks, with a result that astonished not only the patient, but also the physicians who saw the case treated. Never did I see a dense pannus yield more rapidly to the action of remedies than in this case. The patient began making his daily trips from the hospital to the college clinic through crowded streets without a guide. In the course of two weeks more, nearly six weeks after the first application, the lids were again treated with the fluid, and permitted to run through the same stages as in the first course. It was again followed by the use of yellow oxide of mercury ointment, which now seemed to be more efficient since the eyes were not so tearful, the tears passing off naturally. The large blood vessels running over the cornea had disappeared from the left eye entirely; the pupil could be seen distinctly; the bulbus conjunctiva was as white and free from irritation and enlarged blood vessels as in the healthy eye. The patient felt comfortable, and suffered no inconvenience from the treatment except the first day or two after the application. The copious secretion of tears was very annoying, both by day and during sleep at night; but if he was asked to compare it with the use of caustics, he said the pain of the latter was infinitely worse, and what is so very discouraging is, that the eyes with all of the suffering continually get worse. This case, as unpromising as it was when the patient applied for treatment, has yielded good results, after three courses of the fluid jequirity. At no time was more than one application made. It seems quite beneficial to wait with the second application, if it should be needed, until the effect of the first is well worn away, in the meantime following up the treatment with eserine or mercurial ointment. The second case was that of inveterate pannus of one eye, where the conjunctiva had not been altered so much, as is usually seen in cases with so dense a pannus. The cornea was totally destroyed, apparently, but after the first treatment with jequirity the blood vessels became fewer and thinner. A second application was made, and the patient sent home, and requested to return in about one week after the inflammation had entirely subsided. This advice was not given carelessly, but the first course of treatment showed how the eye would tolerate the drug. When she returned in due time, quite a change had taken place, the eye looking much better.

It is not our effort to make this remedy a general one, a drug that the laity can apply, but to show that it is not so dangerous a remedy as it is supposed to be by many. The remedy should never be given into the hands of the patient, if he is ever so intelligent. In the above case the prognosis, so far as making the eye fit for practical purposes, was not so very promising, but it did this much, it relieved the tendency to relapse of the pannus, which is of considerable value in an old chronic case of trachoma.

In the next class of cases in which jequirity was employed, the indication for the drug was not clear according to the literature on the subject, and possibly the publication of these few cases may, with some observers, cause an indiscriminate use of it. That is not our aim. We want to supply the want of remedies that ophthalmology is sorely in need of, and the only manner in which to accomplish that is to continue making experimental and clinical research. In ulceration of the cornea jequirity seemed to be indicated on account of the torpid condition of the ulcerative process; engrafting an acute inflammation on the chronic process has a tendency to bring about a kindly reaction which brings about repair at once, as the following case may indicate:

John M., æt 28, book-keeper by occupation; robust and healthy; complained of a redness of his eyes with a sensitiveness to light. Close examination revealed the development of a phlyctenular inflammation of the cornea, for which the ordinary remedies were employed with the speedy relief of the disease; but

in its stead a marginal inflammation of the cornea set in, which proved quite obstinate. It caused the eyes to become very sensitive to the light, with a great deal of tearing and pain at night. The inflammation continued to travel slowly but surely around the sclero-corneal junction. After it had passed around nearly half of the cornea the jequrty was cautiously applied. The effect on the eye in general was the same precisely as when used for conjunctival diseases. The effect on the pathological process was to cause a healthy repair of troughing ulcer traveling around the cornea. It seemed in these cases of corneal disease where the physiological arrangement of the conjunctiva has not been disturbed, the action of jequirity did not require the length of time to pass away as where this structure was in a state of chronic disease. The patient progressed very satisfactorily, possibly no faster than we have seen the same class of cases recover, but at the same time it shows and proves beyond a reasonable doubt that this agent can be employed, if properly done, in any eye, no matter what condition it is in. But whether it be of much service or not to the general practitioner is the question. Can we use it with safety in our cases of trachoma as we meet them in our daily rounds of practice, no matter if the cornea is involved? The answer is, if carefully done it may be used in any eye where the cornea or conjunctiva has become inflamed. So far there are no indications for its application in other diseases of the eye.

The course of a jequirity inflammation produced by the liquid preparation sent me as samples, does not differ in any particular from the inflammation set up by the infusion as recommended by De Wecker; therefore it seems wholly superfluous to add the history of case after case when they are so nearly alike. The cases above described are the typical ones of a class of cases the description of one of which will answer for all, since the question at first to be settled is as to the safety of the remedy when applied to the conjunctiva specifically inflamed and affected by many complications. After this the pathological condition to which the drug is best adapted can be brought out since no single remedy will be found that will cure all cases of a given class with its complications, and when finally the exact indications are found the drug may produce different results in the hands of two observers, since opinions in diagnosis differ so much.

We can briefly sum up as follows:

1. Fluid jequirity, as described above, is as efficient as when the infusion is freshly prepared from the bean.

2. The preparation will keep for months without losing any of its properties.

3. The drug is perfectly safe when carefully applied.

4. In the above form it is just as convenient as though an alkaloid had been found which only needed dissolving to make it ready for use like atropine.

5. It is my opinion that the irritating effects of jequirity are not desirable to cure pannus or trachoma, and that further observation will enable us to prepare the drug and obtain its good effects only, while the irritating properties are eliminated by the manufacturing pharmaceutist. In the meantime, we are content to use it as it is, it being the best remedy accessible to the oculist for the cure of trachoma, destruction of the conjunctiva by the knife, cautery or sharp spoon not excepted.

In many cases of keratitis the patients request that the treatment should be repeated, the ordinary plans of treatment being too slow. It unfits the patient for business for two or three days, but then the cornea is in so much better a condition that they gladly undergo the ordeal.

Mary Gale, æt. 16, German, a perfect picture of health, has complained of inflammation of the cornea for some weeks; the eyes are sensitive to the light, the cornea is hazy, the conjunctiva is reddened, the deeper vessels are dilated, the eye is painful, especially at night; the whole picture indicates a clear case of keratitis. She was treated with eserine and the various simpler remedies, but the result was nil, the condition remaining the same from week to week. As a dernier ressort, I applied jequirity in fluid form. The reaction was the simple ordinary inflammation usually set up, and in the course of three or four days the eyes could be opened to bright light without causing any lachrymation; the pain ceased, and the cornea was not as dull and hazy. In this case each application caused an eczema of the eyelids of a mild type. Other cases belonging to the same class could be cited, but it is superfluous. I have employed it about twenty times in keratitis, and, while it has never caused a single untoward symptom, it has relieved a number of cases. In purulent middle-ear trouble the drug acts admirably in many cases. I have never seen any bad results from its use in the ear. The question has frequently been asked where were the beans produced or grown that yield only good results I have made comparative tests with beans from Africa, Brazil, Central America and the East Indies, with no difference in the action that could be noticed. The good results obtained with jequirity depend on the ability of the doctor to apply it.

393 Elm Street.

Shall We Bleed? Shall We Blister?*

By R. L. Hinton, M. D., Prescott, Ark.

Were our grandfathers wrong in the use of these remedies? Are they to be discarded entirely from the teachings and practice of medicine, or to be mentioned only as relics of the past, and those who still advocate and use them to be branded as fogies? Such and similar questions occasionally occur in the current literature of the day, more especially in reference to the treatment of pneumonia, and in these latter days they frequently have to be met and discussed in consultation at the bedside. I have been anxiously awaiting in the vain hope of hearing from some abler pen upon this subject, for I confess it is with much diffidence that I approach it, knowing as I do, that not only many in the rank and file of the profession, where I claim an humble place, but some of the very fountain heads, whence we get our teachings and our prejudices fixed in us, perhaps for life, differ widely from the views I shall express and endeavor to sustain in this paper. For I am not ignorant of the fact that many of our modern teachers, and authors of leading text-books, speak slightly of

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these remedies, while others discard them as "worse than useless," thus sending the young physician forth to the practice with this bias and prejudice to be overcome, if ever it is, by observation and experience. In order to be brief, practical, and, above all, to be well understood, I propose first to give a few cases from my practice, in which blood-letting was resorted to, and in doing this, I shall not attempt a full history of each case, its symptoms and treatment throughout, but only as much as will serve my present purpose, after which will add such remarks as may suggest themselves.

Case No. 1.—A few years ago I was called to see J. C., aet. 17, in the town of F., late in the afternoon, a young man of slight, delicate frame, but usually in good health as he was at the time of this attack. His father met me at the gate, told me that in my absence from town, early in the morning he had called in Dr. M., (will state that I was the family physician) that he had left some medicine which his son had been taking all day, but had been growing worse. I told him to send for Dr. M., and in the meantime I learned that the boy had been complaining some little for a day or two, that in the early part of the previous night he was taken with a chill, which was soon followed by a high fever, with some difficulty of breathing, which last symptom had been gradually growing worse. I found him propped up in bed in a half-recumbent position, flushed face, brown furred tongue, hot, dry skin, pulse 125, fever heat 104½°, with distressing dyspnœa, with frequent effort to cough. Physical examination discovered about the whole of the posterior of both lungs, to be in a state of congestion, as also anteriorly, except the upper lobes. Dr. M. having now arrived, after taking a glance at the patient, we retired in consultation. After hearing his views of the case and his treatment, which consisted of the usual heart sedatives and expectorants, I told him it would take something more powerful, more prompt and decided in its action, to relieve the urgent symptoms in this case, which he did not question. I then proposed venesection, as in my opinion the only remedy that could meet the case, or at least, all other remedies, without it, would prove useless. He replied, I believe if you bleed this boy he will die, and if you insist upon it, I shall ask to be excused, as I am not willing to share in the responsibility. In this dilemma we agreed to call in the father and let him decide which of us should take the case; so we did, and Mr. C., an intelligent, strong-minded man, of quick decision, turned to me and said: "Take the case, and do what you think best, for something must be done, and that speedily, or my boy can't live." I corded his arm, and opened a bold stream into a wash basin, telling the patient to let me know, if he should feel sick or faint, so when he showed symptoms of fainting, I uncorded his arm, lowered his head and shoulders, and the blood stopped. I put him upon tr. verat. viride and tr. gelsemium aa ʒ ij. Dose, 6 to 10 drops every four hours, according as the symptoms might demand, to be given with epsom salts ℥ ss, paregoric and water aa fl ℥ ij. Dose, one teaspoonful, to remove nervous irritation and act on the secretions. With but little addition to, or change in this treatment, there was no more dyspnœa noticeable, a slight tendency to pyrexia the next afternoon, which was easily controlled, and on the third day, when I took Dr. M. down with me to see the patient, we found him sitting in a rocking chair by the fire. Dr. M. asked him if he was not very weak after so heavy a bleeding. It is enough to say that this case made a speedy and thorough recovery.

Case No. 2.—Was called Feb. 18, 1881, to W. in town, a stout, plethoric man, aet. 28. This case had just gone through with the measles, pretty well developed in all its features, especially the catarrhal symptoms, and I had dismissed him two days before, able to be up and about the house, and bidding fair to be well in a few days. He had taken cold, and his wife informed me he had been bad all night, and had been growing worse so rapidly she feared he could not live without speedy relief.

I found him propped up in bed, near an open window, with distressing dyspnœa,—pulse 120, skin hot and dry, short and rapid respiration, tongue dry and brownish coated, and, to use his own language, "my lungs are so stuffed, I shall suffocate." He had taken nothing but some fever mixture he had been using during his course of measles. I asked him if he was afraid to be bled; "no", says he, "anything for relief." I corded his arm, and opened a bold stream, which at the first jet, spouted over the foot of the bed. I watched him till he showed signs of fainting, when I uncorded his arm, and lowered his head and shoulders, and the blood ceased to flow. This man was put upon about the same treatment as case No. 1, and made the same rapid and complete recovery.

Case No. 3.—Called, August 10th, 1883, two and one-half miles from town, to D., a stout mill hand; arrived at ten o'clock in the night. Learned from the mill boss that this man was taken, early in the afternoon, with pain in the bowels, supposed to have been brought on by eating an apple, and drinking cold water; that he had been rapidly growing worse in spite of everything he had been able to do; that he had given him opiates in one form and another, till he feared to give him any more. Found the patient in a state of insensibility, rolling and tossing from side to side of bed, two men standing by to keep him on. I first gave him a hypodermic dose of morphia, gr. ¼, with sulph. atropia, gr. $\frac{1}{60}$, which had no visible influence whatever. After waiting sufficient time, I corded his arm and opened a full stream, which I did not measure, as it was caught in a wash-basin, but let it run, till by the change of color, volume and consistency, I remarked, "I guess he has bled enough." He afterward told me this was the first thing he had heard, or known since dark, some three or four hours. I had the hot poultices removed, and put instead a thin cotton cloth, once doubled, and wet in cold water, on the abdomen, ordering it re-wet and applied as often as dry. Prescribed:

℞ Epsom salts ℥ iv.
Paregoric ℥ ij.
Ess. ginger ℥ j.
Water to fill up a four-ounce bottle.

Dose, teaspoonful every four hours. Tincture veratrum viride and tincture gelsemium, equal parts, mix—take six to ten drops every four hours, when necessary to control the heart's action. I left about twelve o'clock in the night, with instructions to let me hear if he did not do well. The next afternoon he sent in for some medicine, reporting that he was

improving. I heard no more from this man till I met him in town, some two weeks afterwards. He had made a good recovery.

REMARKS —These cases were, all of them, of active, or sthenic congestion. The first pure croupous pneumonia, the second catarrhal pneumonia, and the third congestion of the bowels.

It will be observed that the remedy was used boldly, and to the full extent, so as to make a decided impression; anything short of this would have proved of no avail. I picked up a journal the other day in which a certain writer said, "The half-way plan of treatment is good as far as it goes, but it doesn't go far enough." I think, in many instances, it is worse than none, and bleeding had better be let alone than half way used, with a trembling sparing hand, and a doubting mind. Then if you have decided that you have a suitable case to bleed, you must have confidence in your remedy, and use it boldly, not sparingly, or your patient will fail of its benefit. Case No. 1 was selected from amongst the many because it was the most forbidding case I ever bled. And if I had seen any other chance for this young man's life—any other means of disgorging his lungs and placing him upon salvable ground, or at least where there might be some encouragement to use a general treatment, with some hope of final recovery, I certainly would have shrunk from the use of the lancet in this case under the existing circumstances. But resting under a deep conviction as to my duty in the premises, and feeling the weighty responsibility that was resting upon me, I went forward in the discharge of that duty, fearless of consequences. Notwithstanding the catarrhal symptoms in case No. 2, and that it was a sequel of measles, taking into account the previous good health of this patient, and that he was not much the worse for having gone through with the measles, I did not hesitate to bleed him to the fullest extent. In case No. 3, of severe congestion of the bowels, the remedy was used to the same extent, and with the same object in view, viz., to relieve an extensive active local congestion, and the effect was just as decided as in the other cases, giving prompt and permanent relief. I have bled many cases of pneumonia, and I think I can safely say two things, viz.: I have never bled a case that could have recovered without it, and I never bled a case that did not recover, usually very promptly, for such cases, when thus bled, are about cured; a visit or two, a little attention to the general symptoms, and good nursing, are all that is needed. Prof. Henry Hartshorne says, while five cases in six would recover without the abstraction of blood, the sixth might die for want of it.

I have practiced medicine in this state and in West Tennessee, and while my percentage of cases that were bled is not so large, I would put it in stronger language and say that they *would*, not that they *might* have died, had they not been bled.

But the great objection to blood-letting is the drain upon the system. We are told we should husband the strength and resources of the system, and avoid prostration, which would follow this drain of the vital fluid. I admit we should husband the resources of the system, but we should not be penny-wise and pound foolish. I have never yet been able to see, in reason, common sense, or science, and certainly not by observation and experience, that the disgorging and unclogging of an important vital organ, by removing a mass of deoxygenized blood, tends to that so much-dreaded-prostration. Take a case of bilious fever, with discoloration of the skin, depression of spirits, coated tongue, pain in the head and back, fever, etc., do we fear to administer the proper remedies, which, if effectual, must bring copious dark, consistent dejections? Do we find that our patient grows weaker under the operation of those remedies, by this heavy drain? By no means, but on the contrary he feels better, brighter, stronger, for every such dejection. And if viewed properly, the comparison is not far-fetched. But without discussing at length the physiological and therapeutic action of this great remedy, as this paper is already more lengthy than was intended in the outset, we will briefly notice some of the causes that have operated to bring it into comparative disuse. And first we would mention reaction from previously existing abuse of the remedy. 2d. A change in the average constitution occurring under the artificial habits of civilized life. 3d. False construction and misapplication of recent science. And last, but not least, "leadership and fashion," originating in and promulgated from hospital and city practice,—not a safe guide for the average town and country practitioner.

Some Native Southern Remedies.

BY H. H. RUSBY, M. D., DETROIT, MICHIGAN.

AS BOTANIST to the scientific department of a large pharmaceutical house, the writer is in almost daily receipt of plant-specimens, coming from every state and territory, and even from foreign countries for determination. Very frequently these specimens are accompanied by reports on their therapeutic value. Often the plants are to be referred to species already established in the materia medica. Most frequently they are, in all probability, nearly or quite inert, having gained their reputation through the theory of signatures, or through their ignorant use in some deluded household. Occasionally, however, the intelligence of the witnesses in their favor, supported by the close relationship of the plants to species of known therapeutic value, lends probability to the reports. In any case, it is of great importance that all facts, however trifling, bearing on this subject, should be placed on record, with a view to the ultimate elaboration of a work on medical botany, which shall attempt to give some information regarding the medical properties, or established lack of them, in every species growing in the district represented. It is to be hoped that the growing interest in this subject will extend to the profession in general, and that physicians, especially those engaged in country practice, will endeavor to glean such facts as are readily obtainable concerning the domestic remedies of their districts.

A partial report of this kind, accompanied by fine specimens—including all parts of the plant, pressed flat and dried between folds of newspapers—from E. W. Lane, M. D., of Scarboro, Ga., is worthy of publication. The doctor refers to "the late unpleasantness" as having, among its evils, accomplished some good in extending the knowledge of native remedies, by restricting the physicians in the south, in a great

measure, to the medicinal resources of their own fields and forests. His reminiscences of the exigencies of himself and his professional brethren, and of the measures, and even legislation, instituted to meet them, form a very racy chapter, and it is to be hoped that he will soon put them in shape, and give them to us through the columns of the GAZETTE. The plants, among a lot of about sixty sent, which had reputed medical properties, are given below:

NATURAL ORDER SARRACENIACEÆ.

1. *Sarracenia variolaris*, MX., Spotted Trumpet-leaf, Spotted Pitcher Plant, Spotted Side-saddle Flower, or Small-pox Plant, reported under the additional name of the "Hood-topped Fly-catcher." The last name possesses interest as being the first reference in the common names to a peculiarity of this and other species of the genus, which has lately been the subject of special scientific investigation, namely, their carnivorous habits. A narrow line of sugary secretion is deposited on the outside of the pitcher-shaped leaves, running from near the ground up to the edge of, and a little way down into, the cup. Insects ascending and feeding from this viscid line, become intoxicated by the time they have reached the interior, and fall into the fluid contained within the leaf. This fluid contains a substance closely akin to the gastric juice, by means of which certain portions of the insect's bodies are digested. This proteid matter is then absorbed. The only medical virtue heretofore attributed to this genus is that of a small pox specific, which,as pointed out by Dr. Lyons, is probably on the "absurd theory of signatures." But Dr. Lane describes it as tonic and slightly anodyne, and of use in dysenteries. These properties would seem to accord well with the physiological habits above given. A secreted substance capable of intoxicating insects would be likely to give it "slightly anodyne properties," and its digestive principle would be likely to render it tonic. As to its use in dysenteries, its abundant astringency would render it serviceable in diarrhœas which often assume a dysenteric type, but scarcely in a real dysentery. The same remarks are applicable to the next and other species of Sarracenia.

2. *Sarracenia flava*, L., the Yellow-flowered Pitcher-plant, etc., now reported as the "Umbrella-topped Fly-catcher."

NATURAL ORDER CALYCANTHACEÆ.

3. *Calycanthus lævigatus*, Wild. Sweet-scented Shrub. Reported as "Southern Peruvian;" the bark said to have done good service as a tonic and anti-periodic.

NATURAL ORDER LEGUMINOSEÆ.

4. *Phaseolus diversifolius*, Pers. Wild Bean. Reported under the name of "King Cure-all." It grows in sand, from an immense, stout club-shaped root, which abounds in starch. It is reported as beneficial to dyspeptics, the root being chewed and the saliva swallowed. The doctor judges the benefit to be derived from the increased amount of saliva swallowed.

NATURAL ORDER RUBIACEÆ.

5. *Galium pilosum*, Ait., var. Hairy Bed-straw. Reported as "Snake-bite-weed" and "Flux-weed," and the absurd name "Four-corners-of-the-earth," which last it has probably received in allusion to its four-angled stem. It is one of the innumerable weeds, of which every village has one or more, said to be a specific for the bite of the rattle-snake and other venemous creatures, and without much doubt worthless in this respect. Belonging to a family which yields the cinchonas and other powerful stimulants, and being so near to the *Gallium Aparine*, L., it very possibly has medicinal properties; but the objection to the property here proposed rests on our knowledge of the nature of the rattle snake's venom.

NATURAL ORDER COMPOSITÆ.

6. *Eupatorium fœniculaceum*, Willd., the Fennel-like Boneset. Reported as the "White-flowered Dog-fennel" (but the true Dog-fennel is *Anthemis Cotula*, L.) Dr. Lane testifies to it as a strong diuretic and one used with success for both man and beast. One pint of the strong decoction is an effectual drench for horses afflicted with "what is commonly called gravel."

7. *Eupatorium perfoliatum*, L. Boneset or Thorough-wort.

8. *Eupatorium rotundifolium*, L. Reported under the name of "Wild Horehound."

9. *Eupatorium Aromaticum*, L. reported as "Upland Wild Horehound." The report on the three last confirms the well known properties of these plants. It is a noteworthy fact that *E. fœniculaceum* should possess such marked diuretic power, while its congeners are nearly or quite deficient in that respect.

10. *Sericocarpus tortifolius*, Nees., one of the White-topped Asters. Reported as "Edgeweed," and said to be useful for colic in horses.

11. *Solidago Odora*, Ait., the Odorous Golden-Rod. Used as a styptic; in the case of wounds, by applying the bruised plant—in the case of epistaxis, by snuffing up the powdered dried leaves. It may be noted here that attention has recently been called to the fact that in certain parts of the country an infusion of the leaves of this plant is very generally used as a beverage, as a substitute for tea, a regular trade in the article having sprung up in the shops.

12. *Chrysopsis graminifolia*, Nutt., the Grass-leaved Silver Aster. Reported as "Blue grass" and "fever-grass." Used as a poultice to sprains.

13. *Helenium nudiflorum*, Nutt., the Naked-flowered Sneeze-weed. Report refers to its well known irritating properties when applied to the nostrils.

14. *Gnaphalium purpureum*, L., the Purple-flowered Everlasting. Reported as "Cough-weed," and as a remedy for coughs and colds.

15. *Gnaphalium polycephalum*, MX., the Sweet-scented Life-everlasting. Reported as a diaphoretic and a poultice in tympanitis.

16. *Pterocaulon pycnostachyum*, Ell., the Indian Black-root. Said to possess tonic and emmenagogue and oxytocic properties. The latter is an interesting announcement as bearing on its well known narcotic properties.

NATURAL ORDER GENTIANACEÆ.

17. *Gentiana ochroleuca*, Froel., the Sampson Snake-root. Dr. Lane confirms its value as a substitute for the other gentians.

NATURAL ORDER LOGANIACEÆ.

18. *Gelsemium sempervirens*, Ait., the Yellow Jessamine. Concerning this, the most important and valuable upon the list, and one of the most valuable plants in the entire materia medica, the doctor speaks in no stinted terms. In his hands, and in the hands of his acquaintances, it has sustained the reputation it has generally gained. An interesting fact is that a majority of the country practitioners in that section prepare their own extracts, using eight ounces of the bark of the green root to the pint of dilute alcohol. If this practice is general throughoughout the south, it would materially affect the estimate of the consumption of this drug.

NATURAL ORDER AMARANTACEÆ.

19. *Telanthera polygonoides*, Moq. Reported unde the name "Piss-a-bed," and as a diuretic and antispasmodic, used in cases of strangury.

We would repeat that it is most desirable that similar reports, accompanied in all cases by specimens showing as much as possible of the plant, mailed flat between sheets of pasteboard, should be contributed, particularly from the south and southwestern regions.

The Law of Tombstones.

BY HENRY A. RILEY, ESQ., NEW YORK.

ONE of the curious subjects of medico-legal lore is that touching on the care for the grave and the remains of the departed, which is prescribed in all the law books of every country and every age.

The law favors the 'repose of the dead' it has been said, and consequently the severest punishments have been inflicted on those who wantonly violated the tomb. Remedies, criminal and civil in their nature, have from the earliest times been ready at hand to use against such enemies of nature and society. The fostering care of the law takes in the ground surrounding the coffin, as well as the body itself, and watches over the tombstone and the adornments connected with it. It was even in this way that the courts saw their way clear to punishing those who broke into the tomb. For it was early decided that this offense was clearly a trespass upon real property. Even the taking away of the body was not strictly stealing, because a dead body could not be the subject of theft, being only a lump of clay, and as it was not property it could have no owner. The offense then was strictly a trespass. Many of the states have laws punishing criminally those persons who, maliciously, or even ignorantly, injure the fences, shrubbery, or other adornments, and the defacing of the tombstone is one of the most serious of these offenses. Coke, the great founder of the English common law, in his Institutes, says: "In every sepulchre that hath a monument two things are to be considered, viz., the monument and the sepulture, or burial of the dead. The burial of the cadaver (that is, *caro data vermibus*), is *nullius in bonis*, and belongs to ecclesiastical cognizance; but as to the monument, action is given, as hath been said, at the common law for defacing thereof." Tombstones and funeral monuments have been of various kinds, as the forms of sepulture varied. Among the ancient Egyptians, where the dead were embalmed as mummies, the tombstone would be the inscription which was written on the covering of the mummy. With the early Christians, who hid their dead in the catacombs, the tombstones would be the inscriptions now to be seen on the walls of the catacomb, or in the museums. In neither of these cases, however, where the mummy or the catacomb inscriptions have become the property of museums, does there seem to have been any attempt to punish the enterprising archæologist who has rifled the graves of one country to enrich the treasures of another. It is rarely, even, that any disapprobation, no matter how mild, has been expressed, but rather a glorying in the fact of acquiring the remains of the dead of past ages, or their funeral inscriptions. What would be sacrilege if practiced on a modern tomb, becomes an honorable action when centuries have rolled over the grave.

Tyler, in his "American Ecclesiastical Law," says: "The heir has a right of property in the monuments and escutcheons of his ancestors, and may maintain an action against any persons defacing them."

Tombstones, like family bibles, can be introduced as evidence in courts of law, of the dates of birth or death. In Brookfield vs. Warren, 82 Mass., 171, the controversy was as to the town having the legal liability to support a certain pauper, and it was necessary to prove, in 1860, the birth and death of a child, who was said to have been born in 1802, and died in 1803. Other evidence was introduced, together with the name and dates on a tombstone, and the court said: "Such evidence is deemed to be competent and satisfactory proof of family descent, and also of the dates of leading events in family history, such as births, marriages and deaths, especially when they relate to ancient occurrences. They are contemporaneous with the events they record; they are made by parties who are cognizant of the facts and who would have no interest or motive in misstating them."

It is a frequent desire of testators to leave money so that their graves and the monuments upon them shall be properly protected and beautified, but some care must be taken in bequeathing the money so that it will not violate the rules against tying up money beyond the legal period. Money intended for such purposes is usually left in trust. The trust must likewise be legally stated, or the purpose will not be attained. A striking and harsh illustration of this occurred a few years ago in an English case, where £600 was left in trust: "To keep in good repair all the tomb-stones and head-stones of my relations and self in the churchyard of Guisborough * * * * and that all the head-stones and tomb-stones be always kept clean and well painted, and that the letters be recut when growing illegible, and that all weeds and grass be kept from growing in the inside of said enclosure, and that it be cleaned and scoured twice every year, etc.," and after this was done the surplus was to be divided between the poor pious members of the Methodist Society, resident in the town above the age of fifty years. In this case, notwithstanding the particularity of the directions, the court decided that the trust was only an honorary one, not obligatory, and it decreed that the money should go directly to the "poor and pious methodists," and left the gravestones to care for themselves. Dawson *vs.* Small, 18 L. R. Eq. 114. In another case, Hunter *vs.* Bullock, 14 L. R, Eq. 45, the grave-stones had better fortune. A bequest was here given to the Trustees of the

Tailor's Institution, Haverstock Hill, requiring them to pay the necessary amount for painting and keeping in repair the grave-stone or grave-stones in Kensal Green Cemetery, and to divide the balance for the benefit of the tailors; and the bequest was held valid.

The epitaphs upon tombstones have formed a distinct branch of literature, and some of the most curious and quaint expressions in the language have had their origin in the desire to perpetuate some grace, virtue or foible of the dead. It has rarely happened, however, that legal controversies have arisen over what should actually be carved on the stone. One of the scandals of the time, however, arose in just this way in England, where the fact that religion is law presents some strange anomalies. The churchyard is held there to be the rector's freehold, and he can do pretty much as he desires in it. One of the bigoted ministers of the Established church was the incumbent at the parish church of Owston Ferry, and the child of a Methodist minister living in the place died, and, as was his legal right, the father had the child buried in the parish churchyard. Shortly afterwards he desired to erect a tombstone upon which was to be given the name of the child as the daughter of the minister, styling himself as "Reverend." The rector objected to the Methodist minister calling himself "Rev.," and refused to allow the erection of the gravestone. Suit was then brought to compel him to permit the use of the word on the stone, but in the Court of Arches, the claims of the rector were sustained on the ground that a Methodist minister had no right to use the title of "Rev." This decision caused much comment, but was not long after reversed by the Judicial Committee of the Privy Council, which decided that the title was not one of honor or dignity, or one to which the clergy of the Church of England were exclusively entitled. In Spooner *vs.* Brewster, 3 Bingham 137, the question was, what was the proper form of action to be brought for injury to the gravestone? and it was decided that it should be trespass. In this case a man named Gravenor was transported to New South Wales for some offense, and while there his wife died. Her mother, Mrs. Spooner, erected a tombstone, in Bethnal Green Cemetery, over her grave, and inscribed on it, "The family grave of John and Sarah Spooner." When Gravenor returned from his place of exile, he took up the gravestone and directed the defendant, Brewster, to obliterate the inscription and carve in place of it, the names of two of Gravenor's deceased children. This he did, although warned not to, and suit having been brought, a judgment was rendered against him. These cases present fairly the rules of law relating to tombstones, and show that injuries to them can be punished criminally, by indictment, or civilly, by action for damages.

It is to the credit of humanity that the defacing of tombstones is a rare occurrence. The opening of graves to secure bodies for dissection, is a much more common offense, yet even this rarely happens.

Urinary Incontinence of Children.

By T. Griswold Comstock, M. D., St. Louis, Mo.

IN reply to a query of Dr. Bruce, of Albion, Mich.,* regarding the treatment of nocturnal enuresis, I would say, that many such cases occur either from an existing phimosis, or an adherent prepuce to the glans, or, from both combined. I presume that such is not the case with Dr. Bruce's patient, but, if such should be the case, an operation for the relief of the abnormal condition will be followed by a complete cure, without any medicine. The operative procedure may be either dilatation or circumcision. If we choose the first, draw the prepuce forwards, introduce Atlee's uterine dilator, and expand the prepuce sufficiently to enable it to be drawn back over the glans; then, by means of a silver probe, break up any adhesions that may exist, and at once retract the prepuce over the glans beyond the cervix. Finally, complete the operation by carefully removing the caseous matter, which will be found to have been imprisoned there since the child's birth. A simple dressing of boro-glyceride is to be used, and for a few days afterwards retraction of the prepuce should be made daily, the glans washed, and the same dressing applied. Circumcision is preferable when there is an elongation, or redundancy of the prepuce. In such cases the writer has had large experience, in private and hospital practice, so that now, it is his custom invariably, when treating boys with any ailments whose symptoms point to the sexual organs, or, when they seem to have abnormal developments, physical, mental, or physiological, to examine the penis, and in many instances he finds either a phimosis with an elongated prepuce, or at least preputial glandular adhesions.

In the following list of ailments, *as an exciting cause*, phimosis will be frequently found to exist: Hernia, protrusion or falling of the rectum, enuresis and paralysis of the bladder, balanitis, epileptoid spasms, indigestion, mental weakness, night-terrors, sleeplessness, peevishness, hysterical conditions, infantile paralysis, morbus coxarius, St. Vitus dance, club foot, knee-joint affections, strabismus, eczema, and other refractory diseases of the skin, priapism and masturbation. I could enumerate many other affections as the consequence of phimosis, but the above list will suffice for this article. Possibly, some of the readers of the Gazette may think that I have already exaggerated. I wish, however, to add that phimosis is a deformity of frequent occurrence, and one that entails a host of evil consequences upon children, and from the fact of its existence in early childhood, it exerts an unfavorable influence in after life. I think it was stated in 1862, by the U. S. examining surgeons for recruits, that about one in fifteen applicants had a hernia. Let me ask any of the readers of the Gazette if they have ever observed a case of hernia in a Jewish child? Such a thing may, indeed, exist, but it is extremely exceptional. Will any experienced surgeon tell me if a hernia in a Jew is not extremely rare; has he ever had occasion to make the operation of herniotomy, or to adjust a truss upon one of the Hebrew race? I would respectfully ask this question to be answered by some of your subscribers. In confirmation of what I have stated, I will refer to Richard Barwell, F. R. S. C., of London, in his treatise upon diseases of the joints, second edition, 1881, p. 289, Wm. Wood & Co., N. Y., publishers. The reason why a contracted prepuce is liable to injure a child, and cause protrusion of the bowel, or rectum, is, that while urinating, the child is constantly required to strain, and this straining becomes a

* See Therapeutic Gazette, Nov., 1884, p. 510.

fixed habit, which commences just after birth, and continues through life; so that either a hernia, or a prolapsus ani, is liable to follow. But it is the reflex irritations resulting from phimosis that we are most interested in, as the nervous system of children is frequently seriously injured thereby, so much so, as to produce ailments, psychical, sensory, motor, and trophic, all of which materially interfere with the proper development of children. Cases of children who were dull at school, deficient in their memory, and who seemed to have no application for study, were blamed by their parents and teachers, and chastized without effect. Such boys have, upon examination, been found to have phimosis, which, after an operation for circumcision, has been followed by the boy at once having his disposition almost changed, and then he could be made to apply himself to his books.

A few weeks since, a boy 13 years old, came to the Clinic of the St. Louis Children's Hospital, for treatment. The mother of the boy came with him, and made the following statement: She stated that her son had been sick for two years, with 'kidney disease,' and that it exhibited itself in his wetting the bed at night, and, latterly, it had increased in intensity, so that he could no longer hold his water in the day-time, and now he would wet his clothes. She stated also, that he had always been weak in his urinary organs since his birth, but during the past two years it had increased so much, that he was now in a most miserable condition. She stated that he had been treated by a physician for the past two years, and that the physician had *never made any examination* of his privates. The boy seemed shy, and timid, looked anæmic, was peevish, and hardly as well developed as a boy of his age should be, and with all this he had a complete paralysis of the bladder. I stated to the mother that I would like to examine his privates, and she replied that such a proceeding was not necessary, as she only wanted 'some medicine' to relieve him. We proceeded, however, at once to examine him, and found a very exquisite case of phimosis, with adhesion of the prepuce to the glans. The penis was rather short, and so we concluded that it was a case for dilatation, and accordingly I proceeded to make the operation. Drawing the prepuce forward from the glans, I then introduced an Atlee's uterine dilator, and expanded it, so as to enlarge the small preputial opening sufficiently, then removing it, I introduced a small silver probe, and proceeded to break up the adhesions of prepuce to the glans as far back as the cervix, and then rather quickly retracted the prepuce so as to completely uncover the glans, and entirely expose the cervix. A good quantity of smegma was found, which was removed and cleaned away; the parts then were washed and dressed with boro-glyceride solution, and this treatment was ordered to be kept up for some days, and no medicine was given, much to the mother's disappointment. I have little more to say about this case, except that a perfect cure was the result. A day or two after, Dr. Goodman, one of the Hospital Staff, made a chemical examination of the boy's urine, and found nothing abnormal about it. As a comment to this, it would seem a little strange that any educated medical man, in the light of the advances of modern science, should have neglected to make a physical examination of this case in question, as in cases with similar symptoms, it might be possible for even a calculus in the bladder to be the cause, and still the attending physician entirely neglected doing anything more than giving internal remedies for two years.

The medical treatment of Dr. Bruce's case, barring phimosis, seems to have been rational, and I know of no other treatment, except, possibly, cantharides tincture in small doses (3 drops) or perhaps chloral. The suggestion of the editor of the GAZETTE, to cauterize the urethra for a little distance is good, and in addition, we should recommend the tonic effect of the *steel sound*, introduced into the urethra, and kept there a few moments; also, the cold douche upon the genitals. If this does no good, faradization may be tried, and, finally, in a case of so long standing, sea-bathing and a change of air may be requisite. If the child's digestion is at all deranged, or if no restrictions have been placed upon his eating, *an entire change of diet* may assist in the cure. To accomplish this, I would insist that he drink by sips, every morning, a glass of *hot* water, and take no food for an hour and a half thereafter—then order a milk diet (skim-milk, and one-quarter lime-water,) with soda crackers or graham bread. A beef broth may be also given once daily, and a boiled egg in case the patient needs it.

This diet, and the drinking of the hot water, is to be enforced to the exclusion of everything else, for some three or four weeks. If all the above fails, then either ergot, arseniate of strychnine or digitaline may be indicated.

507 N. FOURTEENTH STREET.

Berberis Aquifolium.

BY DR. O. SOPER, LODI, N. J.

SO much has already been written on this remedy that it seems to me almost superfluous to add anything on the subject.

I had used berberis soon after it was introduced to the profession through Parke, Davis & Co., but having no well-marked cases in which to try it thoroughly, I lost sight of it, thinking it was like many newly-lauded medicines, destined to be short-lived.

In October, 1883, I was called to see an old lady, aet. eighty-seven years, who had had in former years two strokes of paraplegia of the left side, from which she partly recovered. She was now afflicted with psoriasis inveterata. Her fore-arms, from the elbow to the wrist-joint, were entirely covered, and the dorsal aspect of her hands as far as the knuckles, with an erythema of a dark cranberry color, shedding large silvery scales, very transparent and white. The lower extremities were in the same condition from the knee to the instep. The forehead shed these silvery scales, but there was no erythema, and the scales did not extend into the hair. To conclude, the entire remaining portion of the trunk, and the upper portion of the arms and the thighs looked as if mortar had been thrown against the skin in pieces about the size of a nickel to a quarter dollar, and from three to four inches apart, on slightly inflamed bases. I think that in this case I tried all the remedies laid down in the medical works devoted to diseases of this class, all of which seemed to aggravate rather than to alleviate the symptoms.

At last I came in contact with a bottle labeled Fl.

Ext. Berberis Aquifolium, Parke, Davis & Co., Detroit, Mich. (empty, by-the-way.). I immediately procured some at P., D. & Co.'s, 60 Maiden Lane, N. Y., and ordered 20 drops of the fluid extract, in water, every three hours, continuously, and gave no other medium while she was taking it.

The patient's appetite, which before this was capricious, now, after using the berberis for one week, had become good again, and as the remedy was continued, it became craving. "Why," she said, "I feel as if I could eat at any time."

When the disease had been under treatment with the berberis for a short time, she used to rub off of her person every morning, to use her own expression, "a large dust-panful of scales." I saw them several times, and should judge that they would fill a half-pint measure about two thirds full. Some of them were as large as a half dime. This case required about two months' treatment with the berberis, and ended in complete recovery. This old lady has lately died of acute catarrhal pneumonia.

Case No. two was a girl æt. eleven years—acute eczema of the entire surface. The hair of the head was matted with a repulsive mass of scabs—crusta lactea—from half to three-fourths of an inch thick. Her ears were much swollen, and fissured from the head, discharging the glutinous fluid characteristic of eczema. The fore-arms were inflamed—erythema—and fissured, discharging the same glairy fluid which formed in crusts. In fact the whole of the remaining surface of the body was in much the same condition, but milder in form. I put her on the berberis aquifolium in ten-drop doses every three hours, and gradually increased the dose so that, in a week, she was taking fifteen to sixteen drops at a dose. This last quantity seemed to take effect on the disease, so that in about three weeks from the time I first saw the case, her skin, with the exception of her head and the fissures behind her ears, was entirely healed. There was apparently no improvement of the "crusta lactea." I now proceeded with a sharp-pointed scissors to clip the scabs from the head by raising the mass as much as possible, and cutting the hair between the scabs and head. This was necessarily a very tedious proceeding, but a task that I would trust to no member of the family to do, for fear they might cut too deep. I ultimately succeeded in the undertaking, and gave her a wash of bay rum saturated with boracic acid, with which the head was moistened every time it became dry The same was used for the fissures behind the ears. In a short time the head and ears were completely healed. I continued the berberis some weeks after recovery. I have tried the berberis in acne of the face, but could find no benefit from its prolonged use in two well marked cases.

An Extract from an Inaugural Essay on Euphorbia Pilulifera.*

By Charles G. Levison, Ph. G., San Francisco, Cal.

THE drug known as Euphorbia Pilulifera, is a plant in the Natural Order of Euphorbiaceæ, which is obtained from a shrub growing in way-side places and is indigenous to Queensland, Australia, and the tropics. The drug has lately been introduced to the medical profession, as a specific for asthma, being used in the form of an infusion, tincture and fluid extract. Experimenting upon its physiological effects, it was found to act slightly as a stimulant, and narcotic, but as far as being a specific for asthma, did not find it to act as such, sometimes increasing the sufferings of the patient by producing a more marked dyspnœa. The experiments were performed upon three different asthmatic patients, and the administration of the drug was by means of the fluid extract. Possibly I have not given the drug a fair trial, and later on, when advantages present themselves, I shall further demonstrate whether or not the drug has the properties claimed for it.

The chemical examination did not develope any thing of importance besides the usual constituents found in most drugs. In the entire examination, not the least trace of an alkaloid was found, by means of the various alkaloidal reagents, though an alcoholic resin gave a decided reaction with Mayer's solution and platinic chloride, but upon testing with Fehling's solution, which it reduced, it was proved to be a glucoside.

The drug seemed to have a very characteristic odor, which is developed on heating to such an extent, that it could be distinguished from other drugs by such odor. Possibly this may be some volatile principle, but upon experimenting with the drug, not previously dried, there was not the least trace of a volatile substance found The drug also showed the entire absence of volatile or fixed oils. When subjected to destructive distillation, a distillate was obtained, which had a very powerful and empyreumatic odor, somewhat resembling nicotine. Possibly this may be some principle of some importance, which, later on, I will investigate.

The following is a systematic statement of the chemical analysis of Euphorbia Pilulifera:

	Per cent.	
Moisture	25.00	
Amount soluble in ether, .725		15.00
" " " alcohol, .820		5.75
" " " water		16.60
Insoluble residue, consisting of cellulose, lignin and siliceous earth, etc		62.65
		100.00
Ash	20.00	
Amount soluble in water, including potassium, sodium and magnesium, phosphates, sulphates, chlorides and carbonates		7.50
Amount soluble in diluted HC, including calcium phosphates		3.50
Insoluble residue, consisting principally of silica and sand		9.00
		20.00
Amount extracted by ether, .725	15.00	
Resin soluble in chloroform, CS_2, glacial acetic acid glucoside		2.50
Wax, non-volatile, soluble in CS_2, chloroform		
Benzine and boiling 90% alcohol, and insoluble in cold alcohol		6.00
Chlorophyll		.25
Insoluble residue		.75
Ash of extractive		.50
Volatile matter driven off by heat		5.00
Tannin		Traces
		15.00
Amount extracted by alcohol	5.75	
Resin, glucoside, soluble in 90% alcohol, and insoluble in chloroform, ether, and petroleum benzine		3.00
Resin, glucoside, soluble in 75% alcohol. Insolubilities, ditto, as above		2.00
Resin, glucoside, soluble in 50% alcohol. Insolubilities, ditto		.50
Ash of extractive		.25
		5.75
Amount extracted by water	16.60	
Starch colored blue by iodine and reducing Fehling's solution		5.30
Albumen soluble in acetic and phosphoric acids, and insoluble in nitric acid and alcohol, and coagulated by heat of 154° F		2.50
Pectin coagulated by alcohol		1.30
Gum insoluble in alcohol and soluble in water		1.70
Protein substance similar to albumen and not coagulated by heat		5.80
		16.60

* Presented to the California College of Pharmacy.

Epilobium in Chronic Dysentery, Diarrhœa, and Ulceration of the Bowels.

By A. Patton, M. D., New Orleans, La.

MY attention was directed to this medicine, through a medical journal, about six years ago. It was intimated by the writer that it was a specific in these diseases, and as I was then a great sufferer from chronic dysentery, I determined to try the remedy in my own case. To my astonishment, it acted like a charm, promptly relieving me of all the vexatious symptoms. The tormina, tenesmus, muco-sanguinolent dejections all left me, and I felt like a new man. True, I rigidly observed such dietetic rules as I had found by experience to be essential. And I am still very careful as to diet, but I seldom have a return of the old trouble. I suggested the medicine to other physicians, who found it exceedingly beneficial in the treatment of these diseases. I have treated a num- of very obstinate cases with this medicine, and always with marked success. The preparation employed was either the fluid extract, or a decoction of the herb. I have found by experience that the dried herb is almost inert. If the fluid extract is made from the green herb, it is nearly a specific in the diseases mentioned. But if the dried herb is used to make the fluid extract, it will disappoint the physician by failing to control the disease. The common name of the plant is the willow herb, but it is in no way related to the salix albi, as some suppose.

The National Dispensatory has a short description of the plant, in which it is named the Epilobium Angustifolium, and described as being a perennial herb, four to six feet high, growing in low grounds in woodlands. Indigenous to North America and Northern Asia. It is demulcent, tonic and astringent, together with some other properties which render it, not only an efficient agent in the diseases I have mentioned, but decidedly curative in chronic, irritable, or indolent ulcers, applied as a strong decoction. In some degree it possesses narcotic and anti-spasmodic properties, by which it promptly relieves the tormina in dysentery. Stillé and Maisch seem to attach very little value to it, doubtless, because they have never seen it tried. But, as I have before stated, the dried herb is almost inert, and to insure satisfactory results the green herb must be used in preparing the fluid extract, or decoction. The dose of the fluid extract is from one to two drachms, diluted with water. In ulceration of the bowels, the remedy should be used by injection, and if the ulcer is near the sigmoid flexure, a long tube should be employed to conduct the medicine to the diseased part. I hope the readers of the Gazette will give this medicine a fair trial, and that it may prove as effective in their practice as it has in mine. I should have stated, if they cannot obtain the green drug, from which to make the decoction to be used in ulceration of the bowels, the fluid extract properly diluted with water may be used.

137 St. Charles Street.

The Origin of Carbolic Acid as a Remedial Agent in Hæmorrhoids.

By Albro B. Allen, M. D., Jerseyville, Ill.

ALLOW me to correct a prevailing error as to the origin of the use of carbolic acid in the treatment of hæmorrhoids, that has gained such widespread popularity through a pamphlet printed and circulated about five years ago, by Prof. Edmund Andrews, of Chicago. Dr. Andrews says there lived near Jacksonville, Illinois, a man by the name of Mitchel, who, by experimenting, discovered that carbolic acid injected into a pile tumor, would cure it, and that he sold the secret to many persons. Dr. A. then goes on to give what he believes to be all the literature on the subject, none, however, antedating 1871. Dr. Kinney, in his paper in the August number of the Gazette, quotes Prof. Andrews. He also states that Kelsey, in his work on diseases of the rectum and anus, says that as the practice originated among quacks, it has been looked upon with suspicion. In the November number, vol. LXIX, 1863, of the Boston Medical and Surgical Journal, under the heading of "selected papers," we find, on the therapeutic properties of carbolic acid, an article from the pen of that beautiful writer, Crace Calvert, Ph. D., F. R. S. After calling the attention of the medical profession to the subject he proposes to discuss, he goes on to state what carbolic acid really is, and then says: "My friend and colleague, Thos. Turner, Esq., F. R. C. S., and senior surgeon at the Manchester Royal Infirmary, read at the last meeting of the Lancashire and Cheshire branch of the British Medical Association, a lengthy paper on 'The Use of Carbolic Acid as a Remedial Agent,'" from which I extract the following that is pertinent to the question under discussion, "hæmorrhoids:"

"The action of carbolic acid is mainly to corrugate and therefore to obliterate the sac of the pile. It coagulates the contents which may be squeezed out; and by corrugation it empties the pile, by which the two surfaces are brought into contact, and thus the sac is obliterated." Now, these illustrious gentlemen, twenty-one years ago, and within three years after the discovery of the acid as a therapeutic agent, claimed for it just what these American writers attribute to the astuteness of quacks. My only object in writing this note has been to correct the prevalent error that renders our profession liable to criticism, for lack of thoroughness in their search after the true literature on the subjects they are so ready to discuss in the columns of medical journals. And, besides, I am bitterly opposed to being so ready to give ignorant quackery credit for the grand discoveries that have been made in our profession during the last century. I believe if the contributors to our medical literature would be more thorough in their search after truth, they would find that the origin of most therapeutic agents reaches beyond the discoveries of the quacks and Indian herb doctors, and have been adopted by the latter after having been discovered by the educated and scientific.

Burdock Seed in a Case of Psoriasis Inveterata.

By A. F. Hand, M. D., Morris, Ill.

I WAS, some months ago, courteously furnished an eight-ounce bottle of the fluid extract of burdock seed, from the laboratory of Parke, Davis & Co., with the request that I would give it a trial in such obstinate case of skin disease as might present, and report the result.

The trial was made in the case of an annoying salt-rheum eruption, about the wrists and forearm, in my own person, which, in despite of considerable treatment, had persisted for several years. It is with pleasure I now give the result. I commenced by taking half-teaspoonful doses three times a day, but I found the taste so horribly unpleasant that I soon began to contemplate death with complacency, as the alternative of failing to take any more. As a consequence, the remedy was taken very irregularly, sometimes a dose two or three times a day, and sometimes but once in two or three days. In this way, several months had passed and scarcely half the bottle emptied, when I was surprised to discover that the eruption had disappeared, and that all annoyance from it had ceased. As this relief has now continued fully three months, I am cherishing the hope that my deliverance may be permanent, and am of the opinion that this result may be attributed to the use of the burdock seed.

Translations.

[All articles signed "T" are translated for THE THERAPEUTIC GAZETTE by C. W. Tangeman, M. D., Cincinnati.]

Resorcin as a Hypnotic.

After demonstrating the difference between the use and effects of the impure and pure resorcin, showing that the former always caused pain and vomiting, as has also been so clearly set forth by Brieger, I am prepared to publish my observations with regard to another property of resorcin that I have since discovered. The use of the impure resorcin prevents the patient from enjoying a sound sleep. This was due to the impurities contained in it, in the form of phenol and kresol. In many instances a dose of resorcin was a terror to the patient. As soon as a pure preparation of resorcin had been obtained, the difference could be noticed at once. Patients suffering from the pains of gastralgia, enteralgia, or from some of the other abdominal organs, soon enjoyed the soundest sleep after resorcin had been administered. For the purpose of demonstrating the hypnotic properties of the agent, I will append the following history of some few cases:

Case I.—Female, robust. After having been treated for disease of the stomach, developed a remarkable tolerance for resorcin. She finally received 20.0 (ʒ v) of pure resorcin dissolved in one liter of water, which was used to wash out the stomach. Shortly after she was suffering from acute resorcinism. She complained of formication in all of her limbs, which was, later on, accompanied by spasms of some of the muscles. Her speech was very imperfect. She finally fell asleep, profoundly, for five hours, after which she awoke, feeling very much better, enjoying the use of all of her faculties again.

Case II.—Male, aged 36, employed in the postal department. Complained of chills recurring at intervals, which became more severe each time. Prior to the patient's decease he complained of severe frontal headaches. In this instance I was called in consultation, and the patient, suffering from phthisis, in consequence of which he had not slept soundly for a month, asked that he be given something to produce sleep. Chloral had been tried, but it seemed to cause excitement, and morphia always increased the pain in the head. In the way of experiment, I ordered two grammes (ʒ ss) of resorcin, in sweetened water, to be given at one dose. He was very anæmic, and from the effect of the moderate dose of resorcin he slept continuously during the whole night, and awoke at seven the next morning, feeling so much better in every way that he supposed he had entirely recovered. At my visit in the morning I gave the patient 3.5 of the same remedy in red wine, which had the effect of causing him to fall asleep, from which he awoke at 3 P. M. Like all consumptives, he imagined himself improving rapidly, but he soon died from large masses of expectoration.

Case III.—Male, had received an injury to his hand, and was suffering severe pain, causing a loss of sleep for nearly eight days. He had attacks of tetanus, which were continually getting worse. Two days before his death I was called as consultant. I ordered resorcin in poisonous doses to be given internally, which caused the spasms to disappear. The action of resorcin in this instance was not only anti-tetanic, like curare, but also hypnotic, which caused the patient to enjoy some comfort for two days while he lived.

In all cases of paroxysmal colic accompanying cancerous, dysenteric, tuberculous, and other diseases of the intestinal tract, and inability to sleep, resorcin exerts an important action. This is also true of the intense pains of vesical and biliary calculi, which prevent sleep. Resorcin is applied as an anodyne locally in inflammations and injuries; likewise it is employed as an infallible, safe hypnotic. It acts as a dynamic agent on centers of the nerve system. For general medicine it must suffice at present, if we make the statement and give assurance that when given to patients suffering pain and inability to sleep, it is an efficient and safe remedy. In every instance where resorcin is administered as a hypnotic, it must be given in toxic doses. This does not compromise the drug in the least, since it is well known that symptoms of intoxication following the administration of toxic doses of resorcin, are not any more injurious than the consumption of red wine in such quantities to cause intoxication. In such cases where chloral, morphine, paraldehyde, piscidin, and other hypnotics are contraindicated according to authors, I find, according to my experience, resorcin indicated, *e. g.*, diseases of the stomach and bowels in phthisical patients, especially where the larynx becomes secondarily involved. It assists digestion, and arrests the cough and vomiting, without causing a feeling of dullness of the system, as after morphine. In psychical excitement and in delirium tremens, resorcin may not be as efficient as paraldehyde, which has yielded excellent results.—From *Prager Med. Wochschr.*, by Andeer. T.

Chronic Obstipation and its Treatment.

Not long since all functional disturbances of the intestinal tract aside from coarse anatomical lesions were attributed as due to some anomaly of the secretory apparatus, especially the so-called catarrh of the gastric and intestinal mucous membrane. Recently quite a number of these diseases have been found dependent on disease of the central nervous system or the peripheral distribution of the same.

The subject of nervous dyspepsia caused quite a lengthy discussion at the late Congress "für Innere Medicin." The theory that nervous influences are the main cause of the various anomalies of secretion of the lower end of the bowels, even if nervous dyspepsia and nervous enteropathy, as more frequently mentioned of late, is not accepted by all. We are always accustomed yet to attribute a chronic obstipation to a preceeding chronic catarrhal condition. While the observation can be made and verified daily that fright, mental emotion and anger, purely nervous influences, cause copious diarrhœas, the plan of treatment for chronic obstipation is based on the principal that chronic catarrh is the cause of it. Lichtenstein claims that chronic catarrh causes chronic obstipation and chronic diarrhœa.

Nothnagel, the latest author on diseases of the intestinal tract, is not clear on this subject, but finally ends by claiming that the end of chronic catarrh is chronic obstipation. The first opposition to this theory was made by specialists on nervous diseases.

Schrœder v. d. Kolk stated that it was caused by a spastic contraction of the colon descendens, a statement that certainly cannot hold good in many cases. Quite recently Ewald called attention to the fact that in neurasthenic dyspepsia, the obstipation is accompanied by a desire to go to stool. Opium acts as a cathartic by relieving the spasmodic contraction of the intestine. It seems as though there was no specific method of treating this disease. It seems as though to stimulate the skin to proper action, or the application of the proper stimulants possesses a beneficial action on the nerves of the intestinal tract. We will briefly give the history of a few patients and the plan of the author's treatment that the reader may more thoroughly understand it:

Case 1.—Mrs. B., otherwise a healthy woman, complained of pain in the head similar to migraine, and in a high degree of obstipation; has been treated by vegetable and saline cathartics without any result. The head symptoms become aggravated when the intestinal complaint is worst. The patient employs baths of a temperature of 16°C., but does not pay any attention to diet. In the course of ten or twelve days the bowels become quite regular, and in the four weeks the patient was cured. For the period of three-fourths of the year the patient was quite well, then the old symptoms set in again.

Case 2.—Mr. R. complains of pain in the head, which he attributes to mental application, and a chronic constipation, which he is attempting to cure with large doses of active cathartics, but lately they fail to give relief and disturb digestion. Sitz baths with considerable friction after the bath cured the patient in five weeks.

Case 3.—A child, aged 3 ; child of a porter in a bathing institution ; suffered with obstipation for one and one-half years, since it was weaned, to such a degree that amylaceous foods, vegetables, plums, etc., caused only one evacuatoin from the bowels, which was quite painful, in three or four days. A series of twenty baths at a temperature at first of 22°C. and later of 18°C., and frequent exercise in the open air completely relieved the disease in one year.

I believe, according to the cases mentioned, that it is pretty plainly proven that only nervous influences were active as causes in the disease complained of, since for the relief of a probable catarrh the therapeutic means employed would have been the reverse of what should have been used. It has been the custom to send patients suffering with the above disease to Kissingen, Karlsbad, Marienbad, but the results were generally poor, and in many instances they have been even worse.—From the *Deut. Medicinal Zeit.*, by Palizæus. T.

The Action of Arbutin and Folia Uvæ Ursi.

The author has recently employed arbutin as recommended by Lewin in eight cases of blenorrhœa of the urethra and cystitis, with the following results:

Blennorrhœa.—Case I. Administered 15 g. (℥ ss) arbutin for six continuous days. The urinary secretion contained pus during all this time, and there was great desire to pass water frequently.

Case II. Arbutin in 30 g. doses for twelve consecutive days; on the sixth day there was swelling and pain of the corpora cavernosa penis. Desire to pass water, with bloody urine. The symptoms all passed away on the twelfth day, but the secretion is unchanged, and contains pus.

Cases III and V received 10 g. daily of the drug for four days. The secretion has not changed. Pains moderate.

Case VI. 20 g. for ten days. The secretion not much changed. Pain less.

Case VII. 20 g. for ten days. Secretion unchanged.

Case VIII. Precisely the same as the preceding one.

All of these cases were otherwise healthy young men.

Cystitis.—Cases I to III. For seven days from 20 to 30 g. were given without a noticeable change in the secretion, or reducing the pain any.

Cases IV and V. Cystitis, without any special cause, in two young women, with acid urine. In one case. 40 g. was given without any effect on the secretions. Pain was diminished but little.

Cases VI to VIII. Cystitis with alkaline urine in two old men and one woman. In the former cases three large repeated doses; in the latter, large dose, but in neither case any results. Alkaline urine remained alkaline during a course of arbutin. In two cases where urinary secretion was acid in reaction, it became alkaline under the above treatment, and occasionally it took on a greenish color; this change is possibly due to hydrochinon contained in arbutin. Some of the properties attributed to this drug by Mencke could not be verified by the author, namely, to increase the watery element of the urine. On the contrary, when the author employed the folia uvæ ursi itself, or a decoction of the same, he obtained positive results in cystitis, which he thinks is due to the tannic acid that it contains. The diuretic action may also be increased by the ethereal oil and urson, as described by Hughes. P. has employed the dry extract for this purpose and has found it quite efficient. It seems to contain all the good properties of the folia uvæ ursi, while it is minus the properties causing unpleasant results. The powder can be given in gramme doses, dry or with sugar, in capsules, on account of its unpleasant taste.—From *Schmidt's Jahrbücher.* By Paschkis.

T.

Sublimate Intoxication in Gynæcological and Obstetrical Practice.

In the Obstetrical and Gynæcological Association, Winter presented specimens from the Kgl. Univers. Frauenklinic, the patient having died from sublimate intoxication. She was brought into the hospital eclamptic. Delivery was completed by means of the forceps, which was followed by a profuse atonic hæmorrhage, which was treated by irrigating the uterus with four or five liters of hot water, containing one-per-cent. of sublimate. Immediately after the patient felt quite well; during the night pains set with tenesmus, copious diarrhœa, and in a short time the characteristic picture of sublimate intoxication had developed, which caused the patient's death on the third day. The post mortem examination showed the changes distinctly that are so marked in poisoning by mercury; especially marked was the diphtheritic condition of the mucous membrane of the intestinal tract. W. thinks the existing anæmia and nephritis was the cause of death. In another case reported by the same writer, the symptoms were briefly as follows: An injection of four or five liters of hot water was made into an atonic uterus, the water containing one-per-cent corrosive sublimate. On the following day diarrhœa, having a decomposing fœtid smell set in, with albumin in the urine, severe pains, depressed temperature and a very frequent pulse. In ten days the patient made a complete recovery. In the clinic at Breslau, a one-per-cent. solution of sublimate is used for all intra-uterine and vaginal injections. Before and after each vaginal exploration, the vagina is disinfected with a liter of the above solution. After the delivery of every child, when the placenta is expelled, this same solution is employed to wash out the uterus on prophylactic grounds. From the 18th of December, 1883, to April 1884, 109 cases of confinement and abortions were treated in the above manner at the Breslau Polyclinic, and 95 from April to July, without the slightest symptom of intoxication. From April, 1883, to the present writing, 423 cases of confinement were recorded, and all treated on the above principle; out of this number only four presented symptoms of intoxication, but they soon disappeared when the sublimate was discontinued. The agent when used for intra-uterine injections becomes dangerous when a proper exit for the fluid is not established. On the other hand, it is just as important for the safety of the patient that the remedy be immediately suspended, the moment symptoms of intoxication are noticed. It is absolutely necessary that the sublimate should be under the immediate control of the physician, and not given into the hands of a midwife, since they are not competent to recognize the first symptoms of intoxication, thereby losing some time that may be quite valuable to the patient.—From *Chl. f. Gyn.* T.

The Injection of Iodine and Ergot in Goitre.

Iodine is a specific remedy in endemic goitre. In epidemic goitre it is absolutely useless. In constitutional goitre its use is occasionally of benefit. In exophthalmic goitre it is contraindicated. In sporadic goitre without constitutional causes iodine is without action; ergotine is the only remedy of any benefit in such cases. Ergotine has a quieting effect on the circulation; the action of the heart becomes slower and more rhythmical. Applied locally it has a tendency to contract the tissues and stimulate the muscular fibre to contraction.

The above is a short résumé of Bauwen's observations. He reports in all eight cases. Ergotine as generally employed is too weak, but has often an astonishing effect.

℞ Ergotine d'Yvon, 1.0.
Aquæ destill.
Glycerini ana, 7.0 grm.

An instance of follicular goitre which resisted all medication with iodine, was treated with ergotine and disappeared in the course of fourteen days. Altogether four injections had been made, each equaling 1.0 gram. of ergotine.

A case of strumous cyst was treated by injections which set up suppuration after the fifth injection, but it was entirely relieved in the course of twenty-eight days.

The third case presented dangerous symptoms with suppuration, after the first injection which required four months to recover entirely.

The fifth case recovered by suppuration in the course of a month.

In the eighth case suppuration also set in, but the patient was finally relieved in the course of two months. The other cases were milder, but all recovered without suppuration.

After treating these eight cases, the author comes to the following conclusions: The injection of tincture of iodine parenchymatously is dangerous in cases where the growth is very vascular, in exophthalmic goitre and in degenerated and fibrous tumors. The injection of Yvon is perfectly safe, and is of benefit in all cases. The tincture of iodine causes more reaction, which may set up dangerous inflammation and suppuration. In fact a number of cases have been reported where iodine has caused death. The beneficial results have been far better and less dangerous where iodine has not been used.—*Bull. de l'Academie de Med.*

Santonine Poisoning.

The brief history of the following case may be of value to some readers, since satonine is a remedy that every physician prescribes many times during the year. Its value as a vermifuge is even known to the laity, therefore mistakes may easily occur and the physician be called upon at any time to treat a case of santonine poisoning. A child, five years old, that had suffered from gastro enteritis in 1880, and from chlorosis and chronic diarrhœa in 1881, received two santonine lozenges July 12, 1882. About one and one-half hours later, the child made the remark that all objects looked green and yellow; a short time after it was put to bed and slept, but quite restless, until 2 o'clock (about eight and one-half hours after the administration of the santonine). She awoke; was irrational; vomited a greenish mass, and sank into a stupor and finally became unconscious. On the following night the child was quite restless again; occasionally there were muscular contractions of the right arm. Strabismus was not noticed. July 14, in the evening, a large blister was put on the nape of the neck. The patient soon re-

covered. An inflammation of the brain could not have existed from the symptoms, nor could the presence of ascardes have caused chromatopsia, while all the symptoms seemed to point toward santonine poisoning. The two lozenges taken by the child contained together about 0.06 gramme (gr. j) of santonine. The only explanation left is that there existed an idiosyncrasy against santonine, or else the lozenges contained more of the drug than reported. In making the lozenges it is quite probable that the drug was not equally well mixed with the mass.—Heinebeck in *Schmidt's Jahrbücher.* T.

Chrysophanic Acid Administered Internally and Subcutaneously for Disease of the Skin.

Observation has repeatedly shown that the local application of chrysophanic acid to diseased portions of the skin has a tendency to act on more distant parts of the skin, than simply to that point to which it has been applied. This fact has caused observers to administer the acid internally for its local effect on the skin. S. gave chrysophanic acid in 61 cases: acne (3), ecthyma (5), eczema (32), impetigo (4), lichen (4), pityriasis (1), prurigo (4), psoriasis (5), urticaria (3). Out of this number 56 were cured perfectly, only one inveterate acne remaining status quo; one case of psoriasis and eczema were only benefited. Relative to the time required to bring about these cures, the author does not make special mention. The acid was generally given in pill form, in medium doses of 0.01 per diem for children, and 0.03 for adults. In a few cases unpleasant secondary effects were accorded, but that was the exception. S. has also tried subcutaneous injection in 11 cases, namely, acne rosacea (1), eczema (3), lichen (4), prurigo, psoriasis and urticaria (1). The acne rosacea was not benefitted by treatment; in one case of eczema relief was not complete; all the other cases were entirely cured. In four cases a single injection was all that was required. The author cautions that only small doses of the acid be used, and then only in cases where it is absolutely necessary, since at the point of injection local inflammatory symptoms may set up.—*Annals de Dermatol. et de Syph.* By Stocquart. T.

Strychnine in Infantile Paralysis.

The author has under his observation two children, one of five and the other of six years of age, where spinal paralysis existed for three and one-half years. In the first case the right lower extremity was paralyzed with atrophy of the muscle. It was treated with electricity, massage, iron, nitrate of silver, etc., but the results were very discouraging. P. finally concluded to give strychnine a trial in 0.001 doses divided into two pills, given daily. In course of 34 days considerable improvement could be noticed, and in 15 days more the child was entirely cured. The muscle atrophy did not disappear so rapidly but improved gradually. The muscles formerly had no sensation, but now they reacted quite well to electric stimulants.

The second child, paralysis of the left lower extremity with atrophy of the muscle, regained the use of the leg in 66 days and the muscular atrophy gradually disappeared.

Henberger verifies this same effect of strychnine in infantile paralysis. The author claims that the preparations of strychnine stimulate the activity of the motor cells of the anterior horns. In this form of disease these cells undergo a pigmentary degeneration or atrophy, but when artificially stimulated by the use of strychnine internally they regain their function and perform their duty as before.—*Memorabilien*, by L. Petrone.

Piscidia Erythrina.

The author has made a number of observations with a dry extract administered in pill form. The pills contained 0.06 (gr. j), and were given in doses ranging from two to four; sometimes given in one dose, and occasionally in repeated doses during the night. In nine cases of insomnia the results were perfect; the patients slept all night, awoke refreshed, without symptoms of intoxication, dizziness, headache, or constipation. In a few cases, vomiting and the narcotic effects of the drug set in. The dry extract is about twenty times as strong as the fluid extract, of which patients can take from 75 to 200 drops. Piscidia is milder in action than opium, does not cause itching of the skin, has no effect on the pulse, temperature, urinary or integumentary secretions.—*Deut. Med. Zeit.*, by Frohnmüller. T.

Correspondence.

Cerebro-Spinal Meningitis.

I thank you greatly, Mr. Editor, for your kind words in the November number of the GAZETTE. I send you some newspaper clippings, which I think would be sufficient to convince Dr. Skinner that we have been suffering down here from a new and "anomalous" disease, and if I have failed to name it rightly, I have been no worse than my neighbors. I am, however, I modestly submit, entitled to some credit for calling the attention of the profession to its singular and fatal career. Dr. Skinner is, no doubt, a good, honest, bright, impulsive physician, who does not take kindly to any new views pertaining to medicine, that he himself has never thoroughly considered. I am not unmindful, Mr. Editor, of the danger of promulgating ideas in advance of one's day and generation. The great Aaron Burr was tried for treason and came very near being hanged as a traitor, for contemplating the same acts that a few years later made Gen. Sam. Houston a governor, and a United States Senator. Three years ago, before I encountered this epidemic and when I thought meningitis only sporadic, I would have been as far from believing in some of my present views as Dr. Skinner or Dr. Any-body-else now is. I could not then have believed that a hyperæmia of the meninges of spinal cord and of the brain could be epidemic in form, going through whole families just as typhoid fever is known to do.

In the last two months I have seen four cases of this affection, in which, instead of vomiting and purging, they were blood and mucus. In these the irritation was simply carried to the rectum by reflex action, instead of to the stomach and smaller intestines.

My theory is that the "winter cholera" of Connecticut, "gray flux," of Iowa, and the "acute, typhoid

dysentery" of south-western Virginia and Kentucky, are identical with the disease which I have described as a "cerebro-spinal meningitis," the other organs becoming implicated by sympathy, or, more properly, by reflex action.

Dr. S. may like the name of "winter cholera," "gray flux," or "acute typhoid dysentery" best, but, nevertheless, I shall contend that this particular epidemic is complicated with spinal and brain irritation. I don't well see how a disease can be acute and typhoid at the same time. I regard an acute disease as sthenic, a typhoid disease as asthenic.

I have carefully re-read my paper, and I endorse every word of it, except where I speak of the urethra; that was intended to be facetious, and I really thought it had been stricken out.

Dr. Skinner reminds me of a dear old college friend, a graduate of Union College, Schenectady, New York—Stephen McKay, a good, noble fellow, and a very intellectual man. Stephen had contracted the habit of using the word "pop-cock," and it grew on him until, tell him what you would, he would reply, "oh, its all pop-cock," meaning, I suppose, it is all "stuff," or "moonshine." But just let him have his blow out with his favorite expression, and he would go almost to the extreme of credulity in regard to a new dogma, however absurd. I have very little doubt that "all bosh" is one of my worthy friend's stock and favorite expressions, and that he uses it without intending it to carry the full weight of its true meaning. If he will kindly put his objections in print, or, if he prefers, will write me privately, it will give me great pleasure to answer him. I do not shrink from free, open discussion.

ALBAN S. PAYNE, M. D.

MARKHAM, VA.

The U. S. Medical College.

[We gladly accord Dr. Wilder the opportunity to make the statement embraced in the following communication. The article containing the paragraph complained of, was, in the press of work, handed to the printer without that careful reading which would have detected the reference to a matter which is out of place in our columns, and which we should have excluded, had we discovered it. It is only because of our desire to show fair play that we permit the further reference to it, as below, and we trust no further attempt to discuss it will be made through these columns.—ED. THER. GAZETTE.]

My attention has been directed to a paragraph, pages 503, 504, of your November number, to which I desire to make a correction. As a man loving exact justice, you cannot refuse me.

The paragraph in question refers to the action of the Court of Appeals, of the State of New York, voiding the charter of the United States Medical College. The allegation that it was issuing its diplomas in an irregular way, has no other truth in it than what is contained in the question of the legality of its incorporation. *It was never charged that the college was selling its degrees and thus foisting* incompetent persons upon the profession. The number of degrees ever issued did not exceed 113; and these have been made legal by an act of the legislature of New York, duly signed by Grover Cleveland. The truth is this: In 1882 the college did succeed in getting a bill through the legislature to legalize its incorporation under the general law of 1848. Its provisions embraced scientific and literary colleges. This was the question passed upon by the Court of Appeals, which declared the college neither a scientific institution nor a literary institution. The conduct of the college has never been impeached. Its curriculum was almost a copy of the Harvard three years' graded course; it was strictly lived up to, and the diplomas are legal.

ALEXANDER WILDER, Sec'y.

NEWARK, N. J.

The Therapeutic Gazette

WILLIAM BRODIE, M. D., Editor.

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J. J. MULHERON, M. D. and A. B. LYONS, M. D.

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EDITORIAL MANAGEMENT FOR 1885:
HORATIO C. WOOD, M. D.,
AND
ROBERT MEADE SMITH, M. D.,
PHILADELPHIA.

Valedictory.

PURSUANT to the announcement made in our October issue, the enlargement of the scope of THE THERAPEUTIC GAZETTE and the change in its editorial management, take effect immediately after the appearance of the present number. With these lines, therefore, we terminate the relation which we have occupied towards our readers during the past six years. The reasons for this change have already been distinctly set forth, and do not need to be restated.

In penning the words which complete the severance of our editorial connection, we do so under an aggravation of the mingled feelings of pleasure and of pain which possessed us when we announced the contemplated change, two months ago. The ties which we are about to sunder have, perhaps, more of the threads of sentiment in their strands than usually enter into those which bind the editor to his readers. The GAZETTE is to a peculiar extent a child of our own creation. The circumstances surrounding its conception, and its bringing forth were different in some important particulars, from those generally attending the origin of a medical journal. It is needless for us to state that these circumstances, which were not of a nature to prepossess the profession in favor of the new venture, imposed on us much additional labor to that necessary in the case of a new journal differently conditioned. In transferring it, therefore, to our successors, we very naturally recall the struggles of the early infancy, through which we tenderly nursed it. We recall, too, its rapid growth in early adolescence, and how its prosperity kindled in our hearts the glow of pardonable pride. And its sudden bound from youth to the maturity of

stalwart puberty but contributed to the further strengthening of the "hooks of steel" with which we had early "grappled it to our soul." The remembrance of these early adversities and of the triumphs over them, are grateful reminiscences.

While our editorial connection is hereby severed we desire to state that our interest in the success of the GAZETTE is by no means discontinued. While the demands made on our time by our practice, and the new field into which the journal has entered, have combined to make it impossible for us to longer take charge of it, we sincerely hope that the plane to which we have been partially instrumental in raising it, may prove but a starting point from which our successors may raise it to still greater heights. They will be able to do this, however, only through the aid of the profession. The highest order of editorial ability can avail little in medical journalism unless supplemented by the cordial and intelligent support of the profession. The medical journal differs from the secular in that it is conducted to instruct its readers in the essentials of their calling, rather than to simply entertain them with ephemeral gossip. This instruction comes not from the editor, who, while he may be thoroughly competent, has little time to do more than to classify and prepare for proper presentation the facts which are contributed by the army of workers, whose hand-to-hand contests with disease furnish the material from which the art of healing is developed. Given, a medical journal with an editor of brilliant parts, but who is backed only half-heartedly by the profession, and another whose editorial chair is filled by a man of only mediocre ability, but who is enthusiastically supported by the sympathy and the contributions of his readers, and the practical physician will not hesitate in his choice of the one for which he will subscribe. The former may be of superior literary excellence and of a greater worth in matters pertaining to "exact" science, but the latter is the one which furnishes the "sinews of war." Under its new management the GAZETTE will have at its head those as to whose literary and scientific attainments there is no question. If its readers would have those attainments to be productive of their greatest good, they must support them in the manner which we have indicated.

To the many "friends we have and their adoption tried" we bid a fond adieu, assuring them that our relations with them will never be forgotten, and that our recalling of them will ever be the revival of the most pleasant memories of our professional career. *Vale!*

WILLIAM BRODIE,
JOHN J. MULHERON,
ALBERT B. LYONS.

Muriate of Cocaine.

AS WAS to have been anticipated, the medical periodicals have, since the discovery of the remarkable anæsthetic properties of the muriate of cocaine, been teeming with articles containing reports of cases in which that salt has been employed. The original report required only to be verified in the experience of a considerable number of the profession, to fix the discovery as one of the most important of recent years, and certainly this verification has been abundant during the past month. It has been the aim of the GAZETTE to lay before its readers, in extenso, all reports from reputable sources covering the action of newly-discovered drugs, and of such as are discovered to possess properties not previously familiar to the profession. We should like very much to adhere to this rule in the present instance, but are prevented from so doing by the very volume of the literature which has appeared in the short space of time since the announcement of the discovery. In lieu, therefore, of the reproduction of this literature in full, we must be content with presenting the briefest resumé of such of it as has come under our notice. While we have been alert to note all the reports which have appeared in our exchanges, we cannot say with any certainty that none of them have escaped our attention. It will be seen, however, from such as we refer to, that the field of the application of the drug has been materially enlarged since our last reference to the subject, and that the most sanguine of the original expectations concerning it have already been very much exceeded.

The immediate local effects of the muriate of cocaine on the conjunctiva were referred to in our last, and subsequent reports have but corroborated the testimony on this action of it. It appears, however, that the anæsthetic influence is quite superficial, and that in operations upon the deeper structures of the eye, comparatively little is gained from the use of the salt, beyond the painlessness of the section of the external surface. A very important enlargement of the field of its applicability in ophthalmic practice has, however, been suggested by Dr. Eugene Smith, of this city, who conceived the idea of introducing the anæsthetic into the eye through the corneal wound, so as to bring it in direct contact with the iris in the operation for iridectomy. In a case which is reported in the Medical Age, as occurring in the joint practice of Drs. Smith and Chase, it was thus employed, and under its influence a segment of the iris was seized, dragged out, and cut off, without causing the patient any pain. These gentlemen, moreover, make another valuable suggestion touching the method of the application of the salt. Applied in the usual way, by dropping the solution into the eye, a considerable portion of it is wasted, and, considering the cost of the drug, it is desirable that economy in its use be practiced. They, therefore, applied it in the form of spray, produced by an ordinary perfume atomizer. In cases in which there is much chemosis, and where difficulty is experienced in separating the lids to any considerable extent, this suggestion will, we think, prove to be an exceedingly valuable one.

It is scarcely necessary to enumerate the various reports covering the action of the muriate of cocaine, on the eye, and we shall dismiss a consideration of its use in this section of the field of its applicability, with the mere statement that, in view of the numerous and favorable reports which have appeared, no practitioner will feel warranted in subjecting a patient to an operation on the superficial coating of the eye, without having previously instilled a two- or four-per-cent. solution of the muriate of cocaine.

It is our purpose chiefly, at this time, to refer to the other uses of the drug than those on the eye. Experimenters and observers have been quite active

in testing its efficiency in the case of all the mucous membranes, to which its topical application can be made. Dr. Knapp, of New York (Medical Record), found that an injection of a solution of it into the urethra, prior to the introduction of the catheter, enabled him to pass that instrument without disagreeable sensation, in a case in which its previous introduction had been attended by much pain. This application of it suggests its employment in affections of such portions of the genito-urinary tract as are accessible, and we shall not be surprised to learn of its use, in the near future, as a remedy for the relief, not only of the pain attendant on micturition in gonorrhœa, but also for the abatement of the inflammation itself. We are prepared for its use for the latter purpose by observations made by Dr. Frank H. Bosworth, of New York, and reported in the Medical Record, on the effect of the solution on the mucous membrane of the nose. Dr. Bosworth found that its application reduced a condition of venous turgescence of the nasal mucous membrane, to one of anæmia, in a comparatively few minutes. This observer has made other observations, from the results of which he makes certain suggestions, which it may be well for our readers to note. He has been enabled, through the action of cocaine, to cauterize the mucous membrane of the nose, for the relief of the hypertrophy of that structure, which is the cause of nasal catarrh in the majority of instances, without the infliction of pain and without the subsequent distressing congestion which otherwise invariably follows this operation. As an aid to diagnosis also, the cocaine is likely to prove of inestimable value in affections of the nose. In such cases the tissues are so swollen by turgescence of the venous sinuses as to prevent ocular inspection, and, consequently, to interfere with a proper estimate how of much of the swelling of the parts is due to connective tissue hypertrophy, and how much to mere temporary excess of blood. In an ordinary cold of the head Dr. Bosworth has applied muriate of cocaine in the form of a spray, and as a snuff, with the effect of almost immediately relieving the "stopped-up nose," which is the distressing symptom in such cases. The relief is also not merely temporary, and the application may be rationally employed for its permanently curative action.

The observations noted in regard to its action on the nasal passages, suggest the use of cocaine in hay fever, which has been held to be due to congestion and consequent hypertrophy of the nasal mucous membrane. Although Dr. Bosworth has not had an opportunity of testing his theory of the usefulness of the drug in this affection, he has made observations in two cases of autumnal catarrh, in which the symptoms very closely simulated those of hay fever, so called. He sums up his observations in the following conclusions:

1. We have in the muriate of cocaine an agent which will control the exacerbation of hay fever.

2. One which will relieve the most distressing symptoms of an acute coryza, and curtail its duration.

3. Which controls the painful and distressing reaction which results from the use of caustics or instruments in the nasal cavity.

4. Which completely empties the venous sinuses of the nasal mucous membrane, and thereby affords a thorough ocular inspection of the cavity; and

5. One which largely eliminates from our minor operations in the nasal cavities the troublesome hemorrhage which so often occurs.

Dr. Fletcher Ingals, of Chicago, reports to the Journal of the American Medical Association a number of cases in which the local application of the cocaine was attended by results as strongly corroborative as possible of those reported by Dr. Bosworth. In the same number of the Journal Dr. C. J. Lundy, of this city, after reporting the usual results of its employment in ophthalmic practice, declares that his experiments conducted with a view to determining the action of the cocaine on the skin were not entirely satisfactory. In some cases the sensibility was perceptibly diminished, while in others little or no effect was produced, and he concludes that for the general operations in surgery the local application of cocaine will be valueless. Its hypodermic use may possibly be of some service in such cases.

Although the use of cocaine for relieving the irritability of the pharynx has been in vogue among laryngologists for several years, they have utilized this property only in making laryngoscopical examinations, and, singularly enough, have not turned it to any therapeutic account. Doubtless, they will have been stimulated by the observation of ophthalmologists to look for opportunities for using it in their practice. Already we note that Dr. Geo. M. Lefferts, of New York, has employed the drug in a case of laryngeal phthisis, with most excellent results on the dysphagia of this hopeless affection. The application of a four-per-cent. solution, by means of a spray, not only relieved the distressing subjective symptoms, but also permitted of a thorough use of the laryngeal brush for the cleansing of the parts.

Other fields for the application of the muriate of cocaine will readily suggest themselves in connection with the above epitomized reports. In gynæcological practice, for instance, the anæsthetic action of the drug must prove of great value, and, indeed, cases have already been reported in which the topical application of a four-per-cent. solution has permitted manipulations and operations which could otherwise have been endured only under the use of a general anæsthetic. The use of the drug will, doubtless, suggest itself to those engaged in rectal surgery, and in fissure of the anus we can conceive of no application which will be more likely to relieve the attendant pain. How would an injection of a two- or four-per-cent. solution do in dysentery? From what we already know of its action, the drug might be employed in this disease with reasonable hope, not only of relieving the pain and tenesmus but also, as in the case of the nasal mucous membrane, of permanently allaying the inflammation.

Cocaine has also been employed in otological practice for the removal of polypus, and it suggests itself as a remedy in ear ache. While the drug is still, in a measure, under trial, there seems to have been sufficient evidence adduced of its great and unequaled value as a local anæsthetic, and the chief interest which will attach to future reports will be in connection with its use in affections other than those of the eye, in which its value has already been established.

Tea, Coffee, Guarana, and Caffeine, as Therapeutic Agents.

THE attention of the medical profession has lately been directed to the use of coffee and tea as substitutes for guarana and coca. Dr. Squibb has taken the position that the two last named remedies can not at present be obtained in our market of prime quality. Guarana, he says, is at best a crude preparation of uncertain composition; the secret of its manufacture is jealously guarded by the half-savage Guaranis, who refuse to place on the market the paullinia seeds which form the basis of its composition; the substance sold as guarana consists largely of starch and other foreign materials, and probably contains, on an average, less than four per cent. of caffeine, whereas a good article should yield as much as five per cent. As for coca, it is almost impossible to obtain an article that is fit for use. It is well known, he says, that coca is a very sensitive and perishable drug, only fit for use when fresh and green, and well cared for in packing and transportation. He contrasts the extreme care that is taken in curing and preserving Chinese tea with the crude methods employed in the case of coca, and argues that the former should, therefore, commend itself to the scientific physician and pharmacist in preference to the latter.

Coffee and tea, he tells us, are always to be obtained of prime quality, and even if they contain a smaller proportion of caffeine than guarana, they are relatively definite in composition, and, dose for dose, they are much less costly agents than either of the substitutes mentioned.

We cannot, however, accept the doctor's conclusions. He assumes, in the first place, that these several drugs owe their medicinal activity wholly and solely to the alkaloid they contain, and that that activity is qualitatively the same in all cases. In a series of physiological experiments he endeavors to ascertain the relative value of these drugs, assuming that their power to combat somnolence is an accurate measure of their relative virtue as therapeutic agents.

It is true that in the course of his experiments, which were all performed on a single patient, it appears, he found that pure caffeine did not produce as decided effects as those obtained from a quantity of either tea, coffee, or guarana containing the same quantity of the alkaloid. Thus he found the physiological equivalent of 3 grains of pure caffeine in 70 grains of tea containing only 2 grains of theine, 60 grains of guarana containing 2.6 grains of guaranine, or 160 grains of coffee, unroasted, containing 1.95 grains of caffeine, or 120 grains of roasted coffee containing 1.68 grains of caffeine, and to these he adds 180 grains of coca, containing 0.45 gr. of cocaine. Since theine, guaranine and caffeine are identical in every respect after they are extracted from the drug, we must conclude that the effects produced by the alkaloid are modified in each instance by the form of combination in which they occur, or else by the concurrent action of some other constituent of the drug. If this be true in reference to one particular action—and that the more specific action of caffeine itself—is it not altogether probable that each one of these drugs, as a whole, may fulfill certain indications peculiar to itself? Not until it is clearly proved that tea and coffee will, therapeutically, replace, in every instance, guarana, should we be warranted in omitting the last, with its excellent record of efficient service, from our list of therapeutic agents.

Dr. Squibb himself admits that, in his comparative experiments with these several drugs he could perceive, although indistinctly and indefinitely, that in each case there was something super-added to the effect from the caffeine. He questions, however, whether the difference in effects commonly observed to exist between coffee and tea, is not due merely to the difference in the dose of caffeine, for which these beverages serve as the vehicle.

In view of the circumstance that each of these drugs contains active ingredients peculiar to itself, this seems to us to indicate an almost willful bias of mind.

When we add to all this the circumstance that coca is brought into comparison with coffee, tea and guarana, as though the effects of the two alkaloids, caffeine and cocaine, were different only in degree, and not, as is the fact, essentially in kind, we shall still more hesitate to accept the conclusions of this writer.

Caffeine does not possess the remarkable properties that have recently been shown to belong to the salts of cocaine, and, although in some respects the two alkaloids do remotely resemble one another, no drug depending for its activity upon caffeine may be substituted as a therapeutic equivalent for coca.

It is true that there is very little coca of good quality in the market at present. Since the discovery of the local anæsthetic action of cocaine, the drug has become more than ever scarce, but if it really fulfills any important therapeutic indication, we cannot afford to dismiss the agent from the list of the materia medica, simply because for a few months, or a few years, possibly, the supply is scanty. Such a course —adopted recently, and defended by so influential an authority as Dr. Squibb himself—might easily have deprived the world of the benefits which already we are beginning to experience from the larger knowledge we have lately acquired of the properties of the alkaloid obtained from this very drug.

Physicians are to-day experiencing great difficulty in obtaining the muriate of cocaine. Not only is the supply very insufficient, but the quality of much that has been offered—from inexperience in its manufacture—has been inferior. Shall we, therefore, refuse to avail ourselves of a remedy so unique in its effect? No physician who has at heart the interests of his profession, or those of humanity—and these are one —will hesitate for a moment to give the most emphatic negative to such a question. No; when a drug has been tried and found wanting, let us promptly disburden ourselves of a useless encumbrance; but, while it still holds tempting secrets, let us not allow any difficulty or obstacle to prevent us from possessing ourselves of them.

Therapeutic Uses of Permanganate of Potash.

THE comparatively recent discovery of the properties possessed by permanganate of potash, of reëstablishing the menstrual flow in suppression of that function, due to various causes not connected with pregnancy, has aroused renewed attention to this remarkable salt. We are pleased, therefore, to find

its therapeutic applications made the basis of an article, in the Medical News of 22nd ult., by that competent observer, Dr. Roberts Bartholow. Dr.B. finds in the chemical actions of the salt a basis on which to construct a systematic therapy. It parts with great readiness with its oxygen, but this readiness is not sufficiently great to prevent a distribution of this gas into the blood. It has been argued that the organic matter contained in the stomach and the mucous membrane thereof is sufficient to appropriate the oxygen of the salt, and thus prevent its entrance into the circulation. Physiological and clinical facts, however, prove that it is not all thus appropriated. Taken into the blood it is a vital stimulant, operating in promoting the activity of the combustive process in all parts of the system.

Its irritant quality interferes with the administration of permanganate of potash in cases in which the stomach is acutely inflamed. In the chronic catarrh of the stomach, however, in which fermentative changes of the food are apt to occur, it is specially indicated. In eructations of gas, vomiting of yeasty material containing sarcinæ, and in acid fermentation of starchy and saccharine matter, the salt acts very promptly and favorably. In the "biliousness" due to a catarrhal condition of the bile-ducts, manifested by a muddy complexion, yellowness of the conjunctivæ, high color of the urine and general malaise, the direct result of the presence in the blood of immature material and unoxidized products of retrograde metamorphosis, permanganate of potash is beneficial in several ways; it checks fermentation and promotes oxidation in the tissues undergoing metamorphosis, and while it thus stimulates metabolism, it helps to consume, in the normal way, the products of waste. Uric acid, which appears in the urine, is converted into urea, and is thus normally excreted. In lithæmia, therefore, it is just the remedy which would suggest itself, and clinical experience has justified the exhibition of it as a remedy in this condition. In the cognate affection, the hepatic form of glycosuria, it is also useful. In the diabetes of nervous origin it has no effect, but when the condition obtains in obese subjects, in whom the presence of much uric acid signifies an inadequate preparation for absorption of certain food constituents, and a supply of oxygen insufficient to convert uric acid into urea, it is very valuable as a remedy. Its use in obesity is, moreover, suggested by the same properties, and experience has shown it to be valuable; it assists in the combustion of the fat and its conversion into carbonic acid and water, thus preventing its deposit in the tissues.

Dr. Bartholow corroborates the claim made for permanganate of potash by Drs. Ringer & Murrell, in amenorrhœa, especially in such cases as are characterized by torpor, anæmia or deficient activity of the menstrual apparatus. For obvious reasons, based on the physiological action of the salt, it is contra-indicated whenever an acute congestion, or general sthenic condition exists. In doses of from two to five grains again in the former class of cases, given for several days before the molimen, it has proved of much value.

In the male, when the torpor, anæmia, etc., which suggests its use in the case of the female, exists, it has proved itself valuable in the relief of functional impotence.

Dr. Bartholow refers also to the use of this salt as a disinfectant, and does not place it as high on the list of agents for this purpose, as it has heretofore been placed. It is a deodorizer of much power, but deodorizers are not necessarily antiseptics. In a list of 91 agents having antiseptic properties, Dr. Miguel is quoted as placing permanganate of potash as the 44th, corrosive sublimate standing first. It is not a bactericide of great activity, and is, therefore, not a powerful antiseptic, although its efficacy as an application to snake bites seems somewhat inconsistent with the results of the experimental investigations regarding its germicide properties. In such cases, however, it must be applied in concentrated strength.

In gonorrhœa, leucorrhœa, and suppurating buboes a strong solution—five to ten grains to the ounce—is an efficient remedy. It is especially valuable in gonorrhœa In recent attacks the strength should not, however, be greater than two grains to the ounce. The more chronic the case the stronger, within proper limits, should be the solution. As an application for the correction of the odor of otorrhœa, ozœna, fetid breath, fetid sweat of the feet and axilla, and all odorous discharges of whatever nature, it is a cheap and effective agent.

Treatment of Diabetes.

WE have received from a reader the request to give the latest and most approved treatment of diabetes, together with a diet list for this disease. We regret the limitation of the space and the time necessary to a full compliance with this request. We take this opportunity to state, however, that there are evidences that a very decided change is taking place touching the treatment of diabetic patients. It was the fashion, not so many years ago that even young practitioners are unable to recall it, to limit the treatment to the exclusion of such articles of food from the dietary as are converted, through physiological processes, into sugar. Experience has taught that it is not all of the treatment of diabetes to withhold saccharine and amylaceous food, and even that there are cases in which such withholding is directly detrimental. Such food is necessary to the building-up of the tissues, whose exhaustion is one of the characteristics of the disease. Diabetes is a term which has come to be synonymous with glycosuria in the nosology of the general practitioner, and, doubtless, if the story were fully told, it would be found that this confusing of the two conditions has been the cause of much fatality. A patient who has sugar in his urine is not necessarily a sufferer from diabetes. But we cannot enter into a discussion of this phase of the question at this time. Diabetes proper is essentially a disease of nervous origin, and this fact cannot be overlooked in the successful treatment of it.

Among the drugs which have been found most beneficial are opium, codeia, ergot, and bromine, and cures are reported from their use by trustworthy authorities. Alkalies, bicarbonates, acetates, and citrates have also been recommended, and it is to the presence of these that the efficacy of the mineral waters of certain springs is, doubtless, traceable. In the treatment, however, there are no "specifics," and no one drug must be relied on to the neglect of the general constitutional conditions.

In such cases as seem to demand the "diabetic

diet," so called, the following table by Pavy is, probably as reliable as any:

DIETARY FOR THE DIABETIC.

MAY EAT

Butcher's meat of all kinds, except liver.
Ham, bacon, or other smoked, salted, dried, or cured meats.
Poultry. Game.
Shell-fish and fish of all kinds, fresh, salted, or cured.
Animal soups not thickened, beef tea, and broths.
The almond, bran, or gluten substitute for ordinary bread.
Eggs dressed in any way.
Cheese. Cream cheese.
Butter. Cream.
Greens. Spinach. Turnip tops. *Turnips.
*French beans. *Brussels sprouts.
*Cauliflower. *Broccoli. *Cabbage.
*Asparagus. *Seakale.
*Vegetable marrow. Mushrooms.
Water-cress. Mustard and cress. Cucumber. Lettuce.
Endive. Radishes. Celery.
Vinegar. Oil. Pickles.
Jelly, flavored, but not sweetened.
Savory jelly.
Blanc-mange made with cream, and not milk.
Custard made without sugar.
Nuts of any description, except chestnuts. Olives.

NOTE.—Those marked with an asterisk (*) may only be eaten in moderate quantity, and should be boiled in a large quantity of water.

MUST AVOID EATING

Sugar in any form.
Wheaten bread and ordinary biscuits of all kinds.
Rice. Arrowroot. Sago. Tapioca.
Maccaroni. Vermicelli.
Potatoes. Carrots. Parsnips. Beet-root.
Peas. Spanish onions.
Pastry and puddings of all kinds.
Fruit of all kinds, fresh and preserved.

MAY DRINK

Tea. Coffee. Cocoa from nibs.
Dry sherry. Claret. Dry Sauterne. Burgundy.
Chablis. Hock.
Brandy, and spirits that have not been sweetened.
Soda-water.
Burton bitter ale, in moderate quantity.

MUST AVOID DRINKING

Milk, except sparingly.
Sweet ales—mild and old. Porter and stout. Cider.
All sweet wines. Sparkling wines.
Port wine, unless sparingly.
Liqueurs.

Carbonate of Titanium.

FROM various quarters we have been asked for information in regard to carbonate of titanium. Being unwilling to confess ignorance of a matter which seemed so be so widely known, at least by name, we have allowed these inquiries to lie a few weeks in our drawer, while we waited for light. We consulted text-books in vain; none of them hinted that titanium had any affinity for carbonic acid. We found, on the contrary, that chemists placed titanium in the same group of elements as carbon itself, silicon, zirconium and tin being referred to the same group. It seemed to us highly improbable, therefore, that the element would form a carbonate or a silicate, and the improbability was strengthened in our mind, by the fact that in analytical operations titanium is actually sometimes thrown out of solution by means of carbonic acid, the precipitate consisting of titanic acid.

We made inquiries of various dealers in rare chemicals, and were invariably told that no such thing as carbonate of titanium was listed by any of the manufacturers; all agreed that if such a compound could be formed, it would prove a costly medicine. At last we found in one of our exchanges a paragraph stating that Wm. Warner & Co., in Philadelphia, were prepared to furnish the article in question, at the rate of 50 cents an ounce. Next we were told by a druggist in this city, that he had just received from a wholesale drug firm in New York, an ounce of the carbonate, for which he had paid $1.50. Another druggist informed us that he paid $2.00 for an ounce of it. It would seem that the price had not yet been fixed definitely, but that in any case it was much above what the actual value of the article would warrant.

The substance procured by these druggists was a cinnamon brown powder, having a bitter ferruginous taste, but not wholly soluble in water. Its physical properties were certainly very different from those we should have expected, but we were making progress

Recently there appeared in the Journal of the Am. Med. Association, a paper, which we reproduce elsewhere in our columns, which reveals the mystery. We give our readers here in brief the conclusions arrived at in this paper:

1st. The article sold as carbonate of titanium is not titanium carbonate, or any other definite chemical compound. It is a mixture of several well-known substances, chiefly sulphate and sub-carbonate of iron, with an admixture of a little blood-root.

It is conceivable that the manufacturer *might* have employed a titaniferous iron ore as the source of the preparation, but in that case where did the blood-root come from?

Its presence is conclusive proof that the published process, "by double decomposition between titanium sulphate and sodium carbonate," was not that actually employed.

2d. At $1.50 per oz., or even at 50 cts. per oz. there must be a very large margin of profit on the "carbonate of titanium," the cost of which cannot exceed 25 cts. a pound. How these modest profits are shared by the parties interested, we are not informed.

3d. Although presented ostensibly to the medical profession as an emmenagogue, the carbonate of titanium is, in fact, skillfully advertised as a means, not only of preventing conception, but actually of procuring abortion. Although only "reckless physicians" are said to prescribe it for such purposes, we are at the same time told, that the alarming symptoms which commonly attend miscarriages are absent when this agent has been used to procure them (!) This information, however, is not given to the medical profession, but is imparted to *druggists* throughout the country. We learn from the editor of the pharmaceutical journal in which this free ad-

vertisement appeared, that it was smuggled in during his absence, and that he will take means to neutralize its effect, and administer a sharp rebuke to the perpetrator of it.

4th. Carbonate of titanium is not a "new" emmenagogue, and, except in combination with aloes, has probably very little influence over the uterine "secretions." The combination with aloes, on the other hand is known the world over, and has been a standard prescription for generations past.

Further comment on our part seems superfluous. We certainly most heartily endorse all that the paper referred to has to say about quackery in pharmacy.

A Singular Result of the Stamp Act on Medicines.

A SINGULAR, but not unnatural, result of the stamp act as applied to proprietary medicines is reported from England. From a brochure on the subject by Mr. C. E. Meetkerke, we learn that so far from restricting the indiscriminate use of those compounds by the public, the law which provides for the affixing of a stamp to them stimulates their sale in certain quarters. That credulity on the part of the public, without which the occupation of the patent-medicine maker would indeed be gone, has encouraged the belief that the government stamp is a guarantee of the purity and value to the end advertised, of the preparation to which it is attached. Doubtless the nostrum venders are not entirely guiltless of encouraging this belief, and thus adroitly turning to their profit the tax which the Stamp Act levies on them. If it is one of the duties of the government to stand between the ignorant and the evils to which their ignorance exposes them, it is manifestly proper that this new phase of an Act, partially at least, designed as a protection against these evils, should receive consideration. The patent medicine business finds no warrant in the *salus populi* which is the *suprema lex*, and its toleration must always be attended by consequences which it would be well to avert.

The Alcohol Question.

A CORRESPONDENT takes exception to our statement of this question in our last, and particularly to the declaration that an ounce of good whiskey is equal in force-producing power to five ounces of lean beef. He thinks that the promulgation of such views must have a very prejudicial influence on society. It was not our purpose to view this question from other than a strictly scientific aspect, and did not purpose to furnish argument for or against the cause of temperance, so called. We believe that our statements are strictly in harmony with the views of those who have qualified themselves, through physiological experiments, to speak with authority on this subject. Had our correspondent favored us with such rebuttal testimony as we have a right to demand, as a justification for his wholesale condemnation of our position, it would have given us the greatest pleasure to publish it. We do not yield to him one iota in our detestation of the curse of intemperance, and are, perhaps, fully as ardent as he in our desire that this bane of our civilization be eradicated. We cannot, however, close our eyes to the facts bearing on the case, and cannot attempt, by our *ipse dixit*, to upset conclusions based on the most careful and reliable scientific observation.

Coto Bark, Not Cotton.

IN THE November issue of the THERAPEUTIC GAZETTE, we reprinted a note on the therapeutic use of cotoin, which appeared in the St. Louis Medical and Surgical Journal as an abstract from the "Paris Medical, and Archiv. für Exper. Pathologie and Pharmacolog." We did not observe that in rendering from one language into another, some one had transformed coto bark into "the cortex of the cotton plant." To readers of the THERAPEUTIC GAZETTE, it is hardly necessary to point out the error, but, knowing by experience how difficult it is to stop the spread of a falsehood, or mis-statement, we call attention to the matter. While we cannot, of course, be responsible for every statement made in regard to a drug, we cannot but feel mortification to find in the pages of the GAZETTE, so palpable an error in regard to a matter of fact.

Book Reviews and Notices.

Index Catalogue of the Library of the Surgeon-General's Office, United States Army. Authors and Subjects. Vol. 5. Flaccus-Hearth. Washington, D. C. With compliments of the Surgeon-General.

It is with pleasure we know that this valuable work is progressing, and we trust that Congress will continue to supply the means for its publication. We also advise that Congress will continue to furnish means for a fire-proof building in which to preserve the valuable material upon which this index is based.

The present volume embraces subjects from Flaccus to Hearth, and includes 15,550 authorities, representing 5.755 volumes and 12,596 pamphlets. It also includes 8,096 subject-titles of separate books and pamphlets, and 34,127 titles of articles and periodicals. Dr. Billings is entitled to the thanks of the medical profession for the interest he has taken in its publication, and the Surgeon-General for continuing him in charge of its compilation and publication.

The Surgeon-General will please accept our thanks for the copy received.

Malaria and Malarial Diseases. By George M. Sternberg, M.D., F.R.M.S., Major and Surgeon U. S. Army; Member of the Biological Society of Washington; late Member of the Havana Yellow Fever Commission of the National Board of Health; Corresponding Member of the Epidemiological Society of London, etc.

A Manual of Diseases of the Throat and Nose, Including the Pharynx, Larynx, Trachea, Œsophagus, Nose, and Naso-Pharynx. By Morrel Mackenzie, M.D., Lond., Consulting Physician to the Hospital for Diseases of the Throat; Lecturer on Diseases of the Throat at the London Hospital Medical College, and Corresponding Member of the Imperial Royal Society of Physicians of Vienna. Vol. ii., Diseases of the Œsophagus, Nose and Naso-Pharynx.

A Text-Book of Pathological Anatomy and Pathogenesis. By Ernst Ziegler, Professor of Pathological Anatomy in the University of Tübingen. Translated and edited for English students by Donald MacAllister, M.A., M.B., Member of the Royal College of Physicians; Fellow and Medical Lecturer of St. John's College, Cambridge. Part II—Special Pathological Anatomy, Sections i.-viii.

These are the July, August and September numbers of Wood's Library of Standard Medicinal Authors. Malaria and Malarial Diseases is from the pen of one of the closest practical observers in the army of the U. S., and one upon whom the utmost reliance can be placed. In deduction from facts, men will differ, as well as in the therapeutical application of agents for cure. The author shows a thorough acquaintance with the literature of malaria and also a personal acquaintance with its results to the human system. The readers of the series will be pleased to find the subject so well handled, and will thank the publishers for making it a component part of their library.

Mackenzie on the Nose, etc., vol. ii. We have expressed to our readers our opinion of its value on more than one occasion. We are only sorry vol. ii. is so far separated from vol. i. in the library series, which is no fault of the publishers.

A Text Book of Pathological Anatomy and Pathogenesis, by E. Ziegler, is the September number of Wood's Library Series, and is the second volume of what we declared, on the appearance of the first volume, to be a most valuable work. In a volume of 365 pages there are 200 illustrations of morbid disease, well explained in the text.

Could the work be issued separately every practitioner should get a copy. The author's work in German, first part, met with such a reception as to exhaust two editions very rapidly and the preparation of the third has been loudly called for. To the subscribers of the library for 1884 the addition of this volume adds materially to its value and usefulness. The publishers are to be thanked for the improvement in printing and paper, qualities to be appreciated by the reader.

Medical Diagnosis. A Manual of Clinical Methods. By J. Graham Brown, M. D.; Fellow of the Royal College of Physicians of Edinburgh; late Senior President of the Royal Medical Society of Edinburgh. Second Edition, Illustrated.
"Felix qui potuit rerum cognoscere causas." Virg. Georg. II, 490. 1884. Price $1.50.

The Principles and Practice of Midwifery. With Some of the Diseases of Women. By Alexander Milne, M. D.; Ex-Vice President Edinburgh Obstetrical Society; Member of Gynæcological Societies of Berlin and of Boston; Author of "Manual of Materia Medica and Therapeuties." Illustrated with numerous wood engravings. Second Edition. Price $2.00.

Lectures on Diseases of the Rectum. Delivered at the Medical Department of the University of the City of New York. By J. Williston Wright, M. D., Professor of Surgery. Price, $1.25.

The above three works are part of Bermingham's Medical Library, and are small octavos, printed on good paper, and neatly bound in cloth.

Medical Diagnosis, by Brown, after an introduction, commences with the general aspect of the patient, giving the diagnostic symptoms preliminary thereto. In the same manner, the alimentary system, the abdomen and its contents, the circulatory, respiratory, urinary, reproductive, nervous and locomotor systems. It is a refreshing book for the older practitioner, and a very valuable aid to the student. To be a good diagnostician is one of the most valuable acquisitions of a physician, and this book will materially aid him. We do not hesitate to commend it.

Principles and Practice of Midwifery, by Alex. Milne, M. D. This book is in the nature of a manual, or a condensation of the ordinary matter that enters into an elaborate work on the subject. It is to be noted more for its convenience, and its detail of its author's personal experience. To members of the profession who do not possess the later larger works, this volume will be very convenient, and within a very reasonable cost.

Lectures on the Diseases of the Rectum, by Wright. These lectures were delivered at the Medical Department, Univ. of New York, and were published in the Medical Gazette. We read them with pleasure at the time, and the publishers have done well in issuing them in book form. Although not so exhaustive as some other writers on the subject, yet sufficient information is given to enable diseases of the rectum to be treated scientifically and also successfully. It is a small octavo, of 170 pages. These volumes can be had from Bermingham & Co., 28 Union Square, New York, at the prices annexed.

Annual Report, War Department, Surgeon-General's Office. By R. Murray, Surgeon-General, U. S. A.

This interesting document has just been received. It embraces a statement of the financial and general transactions of the Medical Department of the U. S. Army for the fiscal year ending June 30, 1884. Of the financial part of this report and of such as is not strictly medical, it does not become us to speak in this connection. There are, however, several points in the report of considerable interest to the medical man as such, and among these is that of the comparative frequency of the occurrence of typhoid fever among the white and colored troops. During the year there occurred among the white soldiers eleven cases per thousand, or .6 per cent of all cases of diseases and injuries returned, while the rate among the colored troops was was 3 per 1000, or .2 per cent of diseases returned from this class. While the percentage of cases was largest among the whites the death rate among the blacks was 37.5 as against 16.4 among the former. Unfortunately the surgeon-general does not discuss the causes leading to this pronounced difference. The report, however, takes the ground that the disease is intimately associated with impure water, defective sewerage, polluted soil, and overcrowding. It would have been interesting as well as profitable had we been favored with a statement of the comparative relation of the white and the colored troops as to these causes, and we trust that the whole matter may receive the attention which it merits, in some future document.

The library of the department numbers 65,738 volumes, and 86,503 pamphlets, which is an increase of 4000 volumes, and 5,500 pamphlets, over the number at the close of the last fiscal year. The report contains the expressed hope, in which the profession will heartily join, that during the coming session of Congress, the necessary legislation to provide for the long and seriously-felt want of a fire proof building may be completed.

The report closes with a biographical sketch of the late Surgeon-General Dr. J. J. Woodward, and a fitting tribute to his memory.

Lectures on the Principles of Surgery. Delivered at Bellevue Hospital Medical College. By W. H. Van Buren, M. D., LL. D. (Valen), formerly Professor of the Principles and Practice of Surgery in the Bellevue Hospital Medical College; one of the Consulting Surgeons of the New York Hospital; of the Bellevue Hospital; formerly President of the New York Pathological Society, and Vice-President of the New York Academy of Medicine; Member of the New York Surgical Society; Corresponding Member of the Surgical Society of Paris, etc., etc. Edited by Lewis A. Stimson, M. D., Professor of Physiology and Clinical Surgery in the Medical Department of the University of New York.

New York: D. Appleton & Company, 1, 3, and 5 Bond St. 1884.

Detroit: John MacFarlane.

This book is the teaching of an experienced surgeon, of one who knew of what he was saying, and from personal observation. It is not claimed that it is an exhaustive work on surgery, because it does not include operative proceedings. It does, however, discuss those conditions which precede and oftentimes follow operations. In fact, it discusses everything outside of operations that the surgeon or physician will be called upon to treat. It is such a work on surgery that the general practitioner should consult and be governed by, as from it he can be advised how to treat and manage the complications of surgery. Take, for instance, hæmorrhage, abscesses, punctures and penetrating wounds, shock and collapse, absorbent poisoning, gangrene, inflammation, fractures, dislocations, tumors, etc. The surgery of these and other conditions is what the general profession should be advised of, and this work furnishes the information. Known so well as is Dr. VanBuren, we can neither add to nor detract from what he has given in this work before us. It has been ably edited by Dr. Stimson, and we advise our readers to have a copy of it in their libraries.

Select Extra-Tropical Plants, Readily Eligible for Industrial Culture or Naturalization, with Indications of their Native Countries and Some of Their Uses. By Baron Ferd. Von Mueller, K.C.M.G., Ph. D., F.R.S., Honorary or Corresponding Member of Scientific Societies and Academies in Philadelphia, New Orleans, San Francisco, Chicago, Kingston, Mexico, Caracas, Buenas Ayres, etc.

"Omnia enim in Usus Suos Sunt."—Syrach xxxix. 21, 26. American edition revised and enlarged. Detroit, Mich.: Geo. S. Davis, Publisher, 1884, with his compliments.

The author of the work before us is a resident of Melbourne, Australia, and Government Botanist of the same. Part of the book appeared in the issues of the Victorian Acclimatization Society's publications. Upon its completion and re-arrangement a call for its reissue was made by the Central Government at Calcutta, in India, and also in Melbourne. Subsequently it was honored by being reprinted for the use of New South Wales. At the same time it went through a German translation and now appears for North American use. This of itself speaks well for the author. That so many plants are found in Australia possessing such merits as are given by the author is truly wonderful, and that so many of them can be transplanted to extra-tropical countries is a surprise.

It is a book that should be in every public library, being of particular interest to the general reader. A place on the shelf of the private library, and even the physician's, would, as a book of reference, be extremely available. It is handsomely printed and bound, and a credit to the art of book-making by its enterprising publisher.

Osteotomy and Osteoclasis for Deformities of the Lower Extremities. By Charles T. Poore, M.D., Surgeon to St. Mary's Free Hospital for Children, New York; Member of the New York Surgical Society, etc.

New York: D. Appleton & Company, 1, 3 and 5 Bond street. 1884.

Detroit: J. MacFarlane.

This is a capital book, written by one who has had considerable experience both in the mechanical and in the operative treatment of the deformities considered in it. In its preparation, the author has been assisted by able surgeons in New York and Boston, and has had free entree to the specimens and wood cuts of Drs. E. M. Moore, of Rochester, and R. H. Warton, of Philadelphia. One hundred and forty-eight pages are devoted to osteotomy, and twenty-six pages to osteoclasis. A full bibliography of both is given, and a full index. It is illustrated by 169 cuts and is handsomely issued. An examination of the work discloses its merits and conveys to the reader that the subjects have been well studied. Older surgeons who have become habituated to certain lines of practice in deformities of the lower extremities, may take exception to those of the author, nevertheless, his teaching is safe to follow, and is both scientific and practical. We commend it to the young practitioner as one of the most useful books he can provide himself with, more especially should his practice lie in the country.

Medical Rhymes.—A Collection from Rhymes Ancient and Modern, Grave and Mirthful, Anatomical, Therapeutical and Surgical. All Sorts to Interest, Amuse and Edify all Sorts of Followers of Æsculapius. Selected and Compiled from a Variety of Sources. By Hugo Erichsen, M.D., Professor of Neurology in the Quincy School of Medicine, Medical Department of Chaddock College, Member of the Detroit Medical and Library Association, etc. With an introduction by Prof. Willis P. King, M.D., Sedalia, Mo., Ex-President Missouri State Medical Society, etc., etc. Illustrated.

J. H. Chambers & Co., St. Louis, Mo., Chicago, Ill., and Atlanta, Ga. 1884. With compliments of the publishers.

The object of the compilation is evidently amusement of the busy doctor in his leisure hours—and fully demonstrates that the physician has about as much poetry in his composition as the average of his fellow beings and that his calling has received the attention from some of the ablest poets of the world.

We have taken much pleasure in perusing the work, as in it we find the author has not forgotten the rhymists of his former home, and also has had the privilege of inserting copy-right poems from the pen of Oliver Wendell Holmes. It is very neatly issued, and will make an addition either to the centre table of the family or the table of the doctor.

Hand-Book of the Diagnosis and Treatment of Skin Diseases. By Arthur Van Harlingen, M.D., Professor of Diseases of the Skin in the Philadelphia Polyclinic and College for Graduates in Medicine, Consulting Physician to the Dispensary for Skin Diseases, Philadelphia, Physician to the Howard Hospital Department of Dermatology. With two colored plates.

Philadelphia: P. Blakiston, Son & Co., 1,012 Walnut street. 1884.

J. MacFarlane, Detroit. Price, $1.75.

This hand-book is, practically speaking, an abridgment of the larger and more extended works on the diseases of the skin, touching very lightly on questions of etiology and omitting all reference to pathological anatomy. It seems to be based chiefly on the more elaborate work of "Duhring on Diseases of the Skin." For the older practitioner who desired

only to refresh his memory it may be very useful, but for the student it is altogether too limited. The parts omitted are the essentials of a thorough knowledge of diseases of the skin, and those in which the student should be perfected in order to make him a scientific dermatologist.

Diseases of the Nose. By Clinton Wagner, M. D., Professor of the Diseases of the Nose and Throat in the New York Post Graduate Medical School· Senior Surgeon Metropolitan Throat Hospital; Fellow of the American Laryngological Association; of the New York Academy of Medicine; Member of the New York County Medical Society; Late Surgeon and Bvt. Lt. Col. U. S. A. With Illustrations of Instruments and Pathological Conditions. Price $2.50.

Bermingham & Company, 28 Union Square, New York; 14 Cockspur St.: Pall Mall, London, Eng., 1884.

Of the many writers on diseases of the nose and throat, we know of no one more qualified to discuss these subjects than our author; of varied experience as a surgeon, and for fourteen years devoted to this specialty, he has enjoyed unusual opportunities in private hospitals and dispensary practice, for gathering and utilizing material upon which this work is based. he has been ably assisted in its production by Professor Whiting, who prepared the chapters on the anatomy and physiology of the parts under consideration. Special literature on this subject is quite recent, and a good book is valuable. This is such not only to the specialist, but also to the general practitioner, to both of whom we commend it. It is handsomely issued by the publisher. Pages 250, with clear illustrations.

The Elements of Pathology. By Edward Rindfleisch, M.D., Professor of Pathological Anatomy in the University of Würzburg. Translated from the first German edition by Wm. H. Mercur, M.D., University of Pennsylvania. Revised by James Tyson, M.D, Professor of General Pathology and Master of Anatomy in the University of Pennsylvania, one of the Physicians to the Philadelphia Hospital, etc.

Philadelphia: P. Blakiston, Son & Co., No. 1,012 Walnut street. 1884.

Detroit: J. MacFarlane. Price $2.00.

This is a very useful and instructive little book. It makes no pretense of taking the place of more elaborate works of others or even of the author himself. It is, as he claims for it, the "ground work" of the science and to make it as clear as possible to the student. Well studied it prepares the student to enter upon the higher plane of pathological science. We take great pleasure in commending it to our readers.

Der Kaffee in seiner Beziehungen zum Leben, für Haus und Familie und für aller Stände. By Heinrich Boehnke-Reich.

Berlin and Leipzig: Fr. Thiel.

This book of 224 pages, discusses an economic question of much importance. The office of coffee in the domestic economy, and its influence on the health and well-being of communities, are not properly comprehended. The person who is sufficiently familiar with the German tongue to read the book before us, will find in it information, served up in most acceptable style, which he will not be able to find elsewhere within the compass of its limited space. We cordially commend it to all (and they are legion) interested in its subject.

Genital Reflexes, the Result of an Abnormal Physical Condition of the Genital Organs, known as Phimosis. By T. Griswold Comstock, M. A., M. D., St. Louis, Mo.

Puerperal or Childbed Fever. By the same author.

These pamphlets are reprints from the N. Y. Medical Times. They are written in a style which commands a careful perusal, from which no one can rise without having his ideas touching the affections discussed broadened and otherwise improved. We should regret our inability to give even a synopsis of them, were it not for the fact that no synopsis could do them justice.

A Practical Treatise on Diseases of the Ear, including a Sketch of Aural Anatomy and Physiology. By D. B. St. John Roosa, M. D., LL. D.; Professor of Diseases of the Eye and Ear in the N. Y. Post Graduate Medical School and President of the Faculty; Surgeon to the Manhattan Eye and Ear Hospital, and formerly President of the Medical Society of the State of New York, etc. Sixth Edition, Revised and Enlarged.

New York: Wm. Wood & Co., 56 and 58 Lafayette Place.

Detroit: J. MacFarlane.

Roosa on the ear may be considered authority. He writes whereof he knows. The number of editions this work has gone through in eleven years sufficiently attests its value to the otological student and practitioner of that specialty. It is a handsome volume of over 700 pages, and fully illustrated with clear cuts. We heartily commend it to our readers.

Annals of Surgery. This is the title of a new monthly journal devoted to surgical science and practice, edited by L. S. Pilcher, M. D., of Brooklyn, N. Y., and C. B. Keetley, F.R.C.S., of London, England., and a full list of collaborators, and published by J. A. Chambers & Co., 405 North Third street St. Louis. London: Smith, Elder & Co., 15 Waterloo Place. Price, $5.00 a year in advance. Single copies 50 cents. To be issued in December and bearing date of January 1st, 1885.

This Journal is in some sort the successor of the Annals of Anatomy and Surgery, published in Brooklyn, N. Y., from 1880 to 1884, and the demise of which we were sorry to record in Dec., 1883. Our best wishes are extended to the new enterprise as we believe a first-class surgical journal will prove a success.

Manual of Dermatology. By A. R. Robinson, M. B. L. R. C. P. & S. Edin. Professor of Dermatology at the New York Polyclinic. Attending Physician to the Demilt Dispensary, Skin Department. Member of the American and New York Dermatological Societies, etc.

New York: Bermingham & Co., 28 Union Square. Price $5.00. 1884.

This book of over 640 pages, the author informs us, is intended to be the basis of a much larger and more original work. The present volume seems to contain all that is known on the subject of skin diseases, is concise, and very applicable. We would as soon have it as a reference as some of the more pretentious works on the subject. It is well worth the price, and is handsomely issued.

A Theoretical and Practical Treatise on the Hemorrhoida. Disease, giving the History, Nature, Causes, Pathology Diagnosis and Treatment. By William Bodenhamer, A. M., M. D. Illustrated by two chromo-lithographic plates and 31 wood-cuts.

New York: Wm. Wood & Co.

Detroit: J. MacFarlane.

This is a first-class monograph on the subject of which it treats. What is left out will be no loss to the reader. It is a practical discourse on both the surgical and medical treatment of hæmorrhoids, and if well studied will enable any medical man of ordinary capacity to manage all such cases. We cheerfully commend it to our readers.

A Practical Treatise on Massage, the History, Mode of Application, and Effects, Indications and Contra-Indications. By Douglass Graham, M. D.; Fellow of the Massachusetts Medical Society.
New York: Wm. Wood & Co.
Detroit: J. MacFarlane.

As the merits and demerits of massage have been scattered in the medical journals for a series of years, the author has thought it well to present them in the form of a volume, and at the same time give his own experience. By all those interested and having confidence in this specific form of treatment, the efforts of the author will be appreciated.

The Physician's Visiting List for 1885. P. Blakiston, Son & Co., publishers, 1,012 Walnut street, Philadelphia.
Detroit: J. MacFarlane.

Thirty-three years has this excellent visiting list been before the medical profession of this country. Its reputation is proof of its publication. It can be had for one year or for six months. The latter double, or for 50 or 100 patients per week, has all the information such a book for such a purpose should have. It is standard, and as such we commend it.

The Treatment of Uterine Displacements, including Prolapses, Anteversions, Retroversions, Anteflexion and Retroflexion. By W. Eggert, M. D. Second edition. Illustrated.
Chicago: Duncan Brothers, 1884. Pages 136.

This is a neat little brochure on the above subjec , and is prepared especially for the homœopathic profession. But little stress is given to manual treatment, reliance being on therapeutical measures, such as are generally used by members of that persuasion, by whom, we presume, it will be considered as a valuable addition to their literature on the subject.

An Aid to Materia Medica. By Robert H. M. Dawbam, M. D.; late Resident Physician to the Nursery and Child's Hospital, New York City.
New York: J. H. Vail & Co.

This is an interleave manual of the materia medica, and is calculated for ready reference for the student preparing for examination, and is also a remembrancer to the practitioner.

Surgical Delusions and Follies. A Revision of the Address on Surgery for 1884 of the Medical Society of the State of Pennsylvania. By John B. Roberts, A. M., M.S., Professor of Anatomy and Surgery in the Philadelphia Polyclinic, Surgeon to St. Mary's Hospital.
Philadelphia: P. Blakiston, Son & Co., 1,012 Walnut street. 1884.
Detroit: J. MacFarlane.

A very interesting and instructive paper, and well worth the time spent in reading it.

Atlas of Female Pelvic Anatomy. By D. Berry Hart, M.D., F.R.C.P.E., Lecturer on Midwifery, School of Medicine, Edinburgh. Author of "Manual of Gynecology" (with Dr. Barbour); "Structural Anatomy of the Female Pelvic Floor," etc.
New York: D. Appleton & Co., Nos. 1, 3 and 5 Bond street.
Sold on subscription only.
Agent for Ohio, Michigan and Indiana: Wm. A. Jansen.

The author of this work requires no introduction to the American medical reader. His works are familiar to all readers of its literature.

It is a new work from one of whom much could be expected, and he has not failed to fulfill all expectations.

Description will give our readers but a faint idea of the character of the work In our opinion it is a faithful account of the anatomy of the female pelvic organs. Many of the drawings are original and every care has been taken to make them accurate. The author has drawn liberally on well-known monographs for illustration and has properly acknowledged the same. Special plates have been given from private specimens, the owners of which have been duly credited.

Every plate has its text, which fully explains it.

Plate xii, illustrating the blood-vessels of the uterus and annexæ, plate xiii, giving the blood-vessels of the pelvis as seen from the front and plate xiv, showing the blood-vessels of the same from the side, plate xv, showing the lymphatics of the groin and uterus, plate xvii, showing the nerves of the uterus, and plate xix. showing the dissection of the perineum are beautiful specimens of art, and will convey to the reader a knowledge he could not obtain from dissection in months and years. There are thirty-seven plates in all, several of which contain from four to six illustrations.

Dr. Alexander J. C. Skene, whom most of our readers know by reputation, says of it: "Such a work is really much needed in this country, for, although American gynæcologists have ever been among the foremost they have, apparently, neither had the time nor the opportunity to produce a work on the female pelvic anatomy equal to the requirements of the age. It may be stated that this atlas will be gratifying to the profession."

It is issued in the highest style of the printing art, printing, paper and typography included, the publishers having spared no pains so far as they are concerned. We wish our space would allow us to give a more minute description of it. To all of our readers who are interested in gynæcological practice it is invaluable, and the general practitioner will learn more from it in an hour's reading than from any other source in months of time. We would not be without our copy for four times its cost.

We are informed that the contract for the use of the original Edinburgh plates is limited to 300 copies for the United States. Physicians desiring this great work will, therefore, find it to their interests to subscribe for it early.

REPORTS AND PAMPHLETS.

The American Journal of the Future, as Indicated by the History of American Medical Journals of the Past. Address before the American Association of Medical Editors, Washington, D.C., May 5, 1884. By Leartus Connor, A.M., M.D., President. Reprint from the Journal of the A.M.A., June 24, 1884.

What and Why. Some Common Questions Answered. A Mix-medly of Almost Everything. On the principle that "one fool can ask more questions than ten wise men can answer." Comps. of Albert A. Pope, 597 Washington st., Boston, Mass.

A Discussion of Some Questions Relating to Tonsillotomy and Clinical Remarks read before the Pennsylvania State Medical Society, November, 1883. By W. H. Daly, M.D. Comps. of the author. Reprint from Med. and Surg. Reporter, Dec. 15, 1883.

Proceedings of the First Three Meetings of the Surgeons of the Eastern Division of the Wabash, St. Louis and Pacific Railroad. Held respectively at Decatur, Ill., Fort Wayne, Ind., and Springfield, Ill. 1884. Comps. of Dr. Wood, Chief Medical Officer.

Edmond Dantes. The Sequel to the "Count of Monte-Cristo." By Alexander Dumas. A large and new edition. Cloth cover. Price 75 cents. One of the most wonderful romances ever written. Published by T. B. Paterson & Brothers 306 Chestnut street, Philadelphia.

Eleventh Annual Report of the Secretary of the State Board of Health of the State of Michigan for the Fiscal Year Ending September 30, 1883. By authority. Comps. of Dr. H. B. Baker, Secy.

Ocular Irritation a Cause of Nasal Affections. By Lawrence Miles, M.D., Elkhart, Indiana, with a list of affections commonly due to eye-strain, and for which spectacles are the most reliable remedy.

Transactions of the Michigan State Medical Society for the Year 1884, No. 4, Vol. viii. Comps. of Dr. Geo. E. Ranney, Secretary. Pages 626.

Fifth Annual Report of the State Board of Health of Illinois for the Year 1882. Compliments of J. H. Rauch, M. D., Secretary. Paper. Pages 633.

Explanation of the Pathology and Therapeutics of the Diseases of the Nerve Centers, Especially Epilepsy. By J. McF. Gaston, M. D., Atlanta, Ga.

Proceedings of the Naval Medical Society. Washington, D. C. Comps. of Dr. J. M. Browne. Vol. ii. No. 1.

Messrs Wm. Wood & Co., have issued the very important announcement to the medical profession that they have for years been organizing and preparing for a work differing from all others issued, which will be entitled a "Reference Hand-Book of the Medical Sciences," and which will consist of a collection of all the important topics belonging to the broad domain of medicine. It will be limited to six or eight splendid, royal octavo volumes, thoroughly well illustrated, of about 800 pages each. To be sold, by subscription only—per volume, in cloth, $6.00; leather raised bands, $7.00, extra Turkey morocco, $8.00

The editor of the Hand-book will be Albert H. Buck, M. D. The contributors are all well-known to the profession. Dr. Buck is well-known as the American editor of Ziemssen's Encyclopœdia of Medicine and "A Treatise on Hygiene and Public Health," both published by Wm. Wood & Co.

We are pleased to inform our readers, from a special note sent us by Henry C. Lea's Son & Co., Medical Publishers of Philadelphia, that this firm have in preparation "The American System of Practical Medicine," to be comprised in five imperial volumes of about 1,000 pages each. The first volume to appear February 1st, and to be for sale by subscription only. Price per volume, cloth $5.00; leather, $6.00; half Russia, $7.00.

This work will be edited by William Pepper, M.D., L.L.D., Provost and Professor of Theory and Practice of Medicine and of Clinical Medicine, University Pennsylvania. Assisted by Louis Starr, M. D.

From the names given as contributors, we concede in advance its value.

Therapeutic Progress

Carbonate of Titanium.—A paper read before the Detroit Academy of Medicine, Nov. 18th, 1884, by A. B. Lyons, M. D.—The use of a class of remedies whose composition is either wholly the secret of the manufacturer, or else is deliberately misrepresented in the statements purporting to give an account of their composition, seems to be gaining ground among reputable physicians.

I cannot but regard this as a misfortune to the profession. A few years ago there were few educated physicians who would attempt to defend the use of nostrums and secret remedies. Now I meet often with men who hold a high position in the medical profession, who openly maintain that the physician ought not to be restricted in any way in the choice of his remedies. They take, apparently, high philanthropic ground, and say that we have no right to deprive our patients of the benefit they might obtain from the use of a secret remedy, merely on account of our ignorance of its constituents. They argue, further, that our knowledge of therapeutics is all, or nearly all, empirical; when we prescribe opium, or potassium bromide, or any other article of the recognized materia medica, we do so merely because clinical experience has shown that patients, in conditions similar to those existing in the case on hand, have been benefited, not because we know how the remedy acts. Why, then, should we refuse to prescribe St. Jacob's Oil or Swaim's Panacea, if we have evidence that these nostrums, better than anything described in the pharmacopœia, will ameliorate our patient's condition?

The reply has always been this: Manufacturers of nostrums are not possessed of any remedies unknown to the profession; their claims are based on falsehood, and if we are unable to obtain from known remedies the results we see produced by the combinations offered by charlatans, it is simply from our ignorance of the subjects to which we are supposed to have given the closest study. To prescribe a quack medicine is, therefore, practically to admit that our own pretensions have been hollow and false. For the pride of our profession, therefore, we should hold strictly to the requirements of our ethical code. But it is not necessary to place it on the ground of pride simply. Notoriously the statements of charlatans are, to express it mildly, untrustworthy. In studying the effect of a quack medicine, too, we have to bear in mind the fact that the exaggerated statements which generally accompany the remedy have a powerful moral influence. Influences of this kind ought to emanate from the physician himself, and they must of necessity complicate all studies of the action of remedies; in the case of patent medicines they are not only a disturbing element, but one which must antagonize the personal influence of the physician. It is, moreover, so easy in most cases to penetrate the disguise under which well-known remedies masquerade as patent medicines, that the physician is inexcusable who prescribes the nostrum, in ignorance of its real composition—and certainly equally inexcusable if, with such knowledge, he continues to prescribe it.

So long as the question relates merely to patent medicines and quack nostrums, the profession is as yet pretty well united; if not in practice at least in theory.

But within the last few years a new class of secret remedies has made its appearance, and the old battle has to be fought over again, but with the foe now conspicuously displaying a flag of truce.

Pharmacy, we are told, is making such rapid strides in our age that the pharmacopœia is quite unable to keep up with the march of progress. Hence enterprising manufacturers come to the rescue, seizing upon each valuable discovery in therapeutics and embodying it in the form of a proprietary preparation. Then, too, remedies must be offered in this

civilized age in a palatable form, and a preparation of any well-known drug, if only it presents this recommendation, is hailed with satisfaction by the physicians of the old school of practice who observe that their patients are drifting over to their homœopathic rival, because they do not have to take such nasty medicines.

The large body of professional pharmacists who have endeavored to serve our profession by devising palatable and elegant preparations which should not be the property of any individual, but freely given for the good of humanity, find themselves put one side by the "enterprising" egotist who advertises iodia, or viburnum compound, celerina or caulocorea, and a thousand other proprietary articles, of which the formula is withheld. The properties and uses of preparations of this class are generally stated in language intelligible enough to the laity, and often the certificates of a score of distinguished medical professors are appended. You see no real difference between them and ordinary patent medicines, even in the prices, and yet as the manufacturers distinctly state "for physician's prescriptions only," it must be all right.

It is not surprising that physicians are perplexed, especially when all the medical journals, many of them conducted by men having an honored place in the profession, publish the advertisements of these secret remedies. To me it seems not difficult to decide where the discriminating line should be drawn. We cannot object to any preparation of acknowledged merit of which the formula is honestly published. When the formula is withheld we should refuse our sanction, especially where the preparation is offered under any fanciful name, as papine, hydroleine, etc. By consistently adhering to such a course we should be very soon rid of the nuisance we all alike complain of, for manufacturers would find it suddenly to their interest to make common cause with scientific pharmaceutists, to the ultimate advantage of all parties. Any other course opens the way, inevitably, to frauds without number—and already we find instances, not a few, in which physicians have cut a sorry figure as dupes of the manufacturing charlatan.

A short time since, a brazen attempt was made to impose upon the profession, as a new discovery, a medicinal preparation called cohothedræ compound (disregard of grammatical form is one distinguishing peculiarity of these innovators in pharmacy), a cure for typhoid fever, an *analysis* of the preparation by a distinguished chemist being offered in lieu of a formula. It makes little difference how often or how completely these frauds are exposed; the same medical journal which in its editorial columns may call attention possibly once to the exposure, continues week after week and month after month to publish advertisements of the preparation, often with a long list of references to eminent physicians. It seems to me that the only way we can protect ourselves against imposition, is to put quackery in pharmacy on the same level as quackery in medicine, judge it by the same laws, and guard ourselves against it by adhering to the same ethical regulations. If a practitioner of medicine claims to have some remedy or gift of healing peculiar to himself, we withdraw from him our fellowship—rather, let me say, he places himself, of necessity, outside the pale of professional fellowship. The same principle applies equally to the man who claims to have a pharmaceutical secret. We are sure that such a man has not the interests of pharmacy at heart; it is unreasonable to suppose that his claim has any better foundation in fact than that of the medical charlatan. As one reasonably familiar with pharmaceutical products, I may go farther than this and say that, as a matter of fact, these much advertised proprietary medicines do not evince either inventive genius or any high order of pharmaceutical skill.

After all this preface I come to the immediate subject of this paper. The September number of the Medical World, of Philadelphia, contains the following notice of a new emmenagogue which we quote *verbatim et literatim:*

"The pill used by the French women to produce barrenness I have found a valuable emmenagogue. Each pill contains two grains each of aloes and carbonate of titanium. They have never failed to bring on the menstrual discharge at the next epoch. Stoppage produced by cold is restored by this preparation in forty-eight hours. It is a most powerful direct stimulant to the sexual organs. I have no doubt that it would produce barrenness if persevered in. A married woman using the pills does not become pregnant.

"My usual formula is as follows:

℞ Pulv. aloes.
Carb. titan., ℥ j.
Fiant pilulæ, no. xxx.

Sig. One pill three times daily.

"No particular nicety need be paid in regard to dose; from one to three pills may be taken *ter die.* They should be commenced from one week to ten days before the expected menstrual period. I have employed them in many cases of amenorrhœa, both in retention and suppression, and almost invariably with the utmost gratifying results; so certain are they to restore uterine secretion when suppression does not depend upon organic disease, that I almost regard them as a specific.

"Their action is peculiar; they seem to possess the power of restoring the secretion when suppressed, and of promoting it when deficient. This pill is in fact a female regulator. When the obstruction is from cold, these pills, with warm pediluvia, are sufficient. They operate kindly, and without excitement; the patient hardly knows she is restored."

The communication is from Dr. M. M. Griffith, of Du Bois, Penn., who a few years ago brought to the notice of the medical profession, crude petroleum mass as a therapeutic agent. There is no intimation in the communication that the carbonate of titanium is not a perfectly well-known compound, and possibly it may be that the name at least, was not unfamiliar in Pennsylvania. Elsewhere in the United States, however, it had a strange sound. In the Medical World, for October, it was stated editorially, that the carbonate of titanium was a rare drug, expensive, and hard to obtain, and that it was not to be had in any of the large cities, but that a supply had been ordered from abroad; while a later notice stated that one firm in Philadelphia was prepared to furnish the article at the moderate price of fifty cts. per ounce.

I have left it to members of the Academy to form their own opinions in regard to the value of a drug which "will inevitably produce barrenness in a married woman;" but I cannot forbear quoting a few sentences from the editorial alluded to, as indicating the drift of popular sentiment within as well as without the profession:

"The article of Dr. Griffith in the September World has created a wide-spread interest in carbonate of titanium. We have received numerous inquiries concerning it. Telegraphic orders were received for it in New York, from Boston, Louisville, and all parts of the country.

"We invite a report of further experience with this drug, hoping that the gratifying results of Dr. Griffith will be verified. Menstrual irregularities are becoming more and more prevalent (among married women?) and any drug promising so much as carbonate of titanium should be fully tested."

Whether the six to eighteen grains a day of aloes prescribed would not of itself be sufficient to induce barrenness in a delicate female, I leave also to my hearers to judge.

My own attention was especially caught by the evident incongruity in the name itself. Carbonate of titanium, to the ear of the chemist sounds about as plausible, as pterygium of the iris to an oculist. I had a curiosity to see a chemical compound, realizing such a singular freak of chemical affinity. Ac-

cordingly, I awaited with some impatience the arrival of a supply of the drug.

I have with me a sample of the article received, with the label "carbonate of titanium"—which, it will be observed, is a written, not a printed label. Had it come from any responsible manufacturer of chemicals, it is not likely it would be without a printed label bearing that manufacturer's name.

Any one familiar with drugs would guess at once that it was what formerly was known as iron subcarbonate, but that compound, which is in reality ferric oxide, is tasteless, while this has a disagreeable ferruginous and bitter taste. I found that a portion only of the substance dissolved in water, and this portion gave reactions for iron (ferrous) and for sulphuric acid. It consists, in fact, almost entirely of ferrous sulphate. After most of this salt was washed out, however, water continued to dissolve slowly something which had a bitter taste, and communicated to the water a strong orange tint. The solution contained a vegetable alkaloid, which proved to be sanguinarine; quantity too small to be easily estimated.

The residue insoluble in water was treated with hydrochloric acid, which dissolved it slowly without effervescence, leaving only a few fragments of vegetable tissue, which were referred to the blood-root, otherwise shown to be probably present, but were not positively identified. The solution consisted almost wholly of ferric chloride, showing that the insoluble substance had been, in fact, "sub-carbonate" of iron. Besides these principal constituents, the powder contained traces of calcium, potassium, sodium, silica, and titanic acid.

Quantitative analysis showed the composition of the powder to be approximately as follows:

Ferrous sulphate (cryst.)	54.8
Ferric oxide (anhydrous)	40.5
Salts of lime, potassium and sodium	2.2
Titanic acid and silica	1.0
Organic matter and loss	1.5
	100.0

Practically, therefore, it consists of a mixture of nearly equal parts of sub-carbonate of iron and sulphate of iron, partially exsiccated, with addition of an insignificant quantity of blood-root, and the "new" emmenagogue proves to be the old familiar combination of aloes and iron.

I am entirely ignorant of the source from which this powder was originally procured. It was sent to me by a leading wholesale house in New York, who, undoubtedly, were acting in good faith. Possibly it has really come from France, under the name it now bears, and that name may have been given it without any intent to deceive. But chemical names have a definite invariable meaning, and when a substance is labelled titanium carbonate, you have a right to expect at least that it will prove to be a carbonate, and it is not unreasonable to feel some disappointment if titanium is so nearly absent that the blow-pipe fails to show its presence.

But it is to precisely such impositions as this that the medical profession lays itself liable when it pleads ignorance as an excuse for accepting the dicta of men who confessedly tell a part only of the truth. I do not know who is the responsible person in the present instance, but I resent as a gross insult to the profession the attempt, if such has been deliberately made, to pass off a mixture of well-known medicinal agents as a new remedy of extraordinary power, and that under a name so impudently false.

Since writing the above, I have come across some additional items of information in regard to titanium carbonate. In the Druggists' Circular for October, we find S. W. D., of Mansfield, Penn., asking for "a short account of the physiological action of carbonate of titanium." Observe that he does not inquire what it is, or where it is to be procured, and note that he writes from a town or village not a hundred miles from Du Bois. His query is promptly answered in the November number of the Circular—not by the editor, but by M. Milton, M. D., who writes from Du Bois, Penn.; a townsman, it seems, of Dr. M. Milton Griffith, and possibly, we may conjecture, from similarity in name, a near relative.

From the reply we quote a few sentences which leave no doubt about the character of the preparation, and settle conclusively the question what attitude the profession must take towards the newly discovered "emmenagogue."

First we are told that titanium is found in several mineral species, in combination with magnetic iron ores. It is of a red color, and resembles copper. It is used to some extent in the arts. (Neither of the two latter statements, by the way, is true.) "Carbonate of titanium is made by double decomposition of sulphate of titanium and carbonate of sodium. It is a reddish brown powder, of a disagreeable bitterish taste, partly soluble in water." This volunteered information is highly interesting—especially to one with wit enough to read between the lines. Its cunning blending of truth with falsehood shows consummate genius in the perpetrator of this most daring fraud.

Now listen: Properties—"It is a tonic, alterative and emmenagogue. It has produced abortion in many instances, and is commonly resorted to for that purpose by reckless women, and advised by still more reckless physicians. It seems to act without producing the very alarming symptoms usually attending such cases. It has the reputation of preventing married women from becoming pregnant by its use in combination with aloes; it has surely done it in a number of cases that have come under my observation. It is generally used in domestic practice in the form of a saturated tincture with whiskey." How singular that a compound of the rare element, titanium, should first come into use as a domestic remedy, and that in the rural districts in Pennsylvania. "My attention was first called to it by its domestic use for purposes not altogether legitimate. It is a valuable remedy, and is worthy of further consideration."

Emmenagogue forsooth! Was there ever a more unblushing advertisement of a fœticide? It matters not that the drug is innocent of the active properties attributed to it, it will be bought for illegitimate purposes and no other. In view of this fact, I am sure that no member of the Academy will regard the carbonate of titanium with any favor or indulgence, or will fail, indeed, on all fitting occasions to denounce it as an attempt to drag the profession into association with a class of criminals whose practices we utterly abhor and condemn.—*Journal of American Medical Association*, Nov. 29, 1884.

Quinine Subcutaneously Administered.—A Paper read before the Washtenaw County Medical Society, April 11. 1884, by A. F. Kinnie, A. M., M. D., Ypsilanti, Mich.: In the paper upon this topic to which the Society has already done me the honor of listening, (1) I advanced these five propositions and earnestly solicited the coöperation of the members in submitting them to the ordeal of a trial in practice:

First. That the hypodermic method is preferable to any other, in case the use of quinine is requisite, in the disorders of infancy and childhood.

Second. In all those cases where cinchonism must be produced promptly, the use of the needle is indispensable.

Third. The hypodermic method is almost equally valuable in case the temperature is high and the patient comatose.

Fourth. It is also preferable when the medicine is not tolerated by the stomach, and, especially, if it is rejected by the stomach and rectum both.

Fifth, and finally. We should not forget its greater economy; as one-half less is required than when administered by the mouth, and three-quarters less than when administered by the rectum.

1 *Obstetric Gazette*, March, 1882.

Notwithstanding these great and very obvious advantages, however, the subcutaneous administration of quinine is not likely to become popular, unless some method can be pointed out by which the danger of producing a resultant abscess can be obviated, or, at least, greatly diminished. And this observation is especially true in the treatment of children and of the more adipose sex. For it must be familiar to every one, that, for a reason which it is the purpose of this paper to point out, the danger of producing a local trouble by the insertion of a hypodermic needle is far greater in these subjects than in others.

In the early part of our experience we got a scare, —which has appeared in the sequel, however, not to have had a very substantial foundation. Nussbaum reported five cases, two of them in his own person, in which, by accident, an injection of morphine was thrown directly into a vein, and described in blood-curdling language the terrific effects produced. The picture was, doubtless, too highly colored, for Eulenberg, of Milan, had made many thousand insertions of the needle without this accident, and I have seen no report of a similar experience since. But it made a profound impression at the time, and in our search for a portion of the skin that could be punctured without the danger of penetrating a vein, the deltoid region was selected as being the best; and here we went on making our hypodermic injections, until our experience taught us to fear a vein less and an abscess more, and the deltoid region was abandoned as being a peculiarly unsafe one, having always in view the possibility of an abscess.

And an obvious inquiry is suggested by this bit of history. What is that peculiarity of the adipose tissue that renders it unsafe to make a hypodermic injection, unless it be a small one, in a child, in a female, or in the deltoid region in every case?

It is not the purpose of this paper to teach the ordinary principles of human histology, and, in addressing such a society as this, it cannot be necessary. The one feature which all these cases have in common is the density or closeness of the subcutaneous areolar tissue; or, in other words, the limited capacity of the areolar spaces. It is impossible to pass a needle through the skin without entering one of these areoles. And as they communicate with one another, it is quite possible, at least in theory, to inject an ordinary syringeful into this areolar network anywhere and in any case. And if the pressure of the thumb upon the top of the piston is very gentle and if the work is very slowly and very carefully done, a hypodermic injection can be made in any case without mechanical injury to the cellular tissues. But this is only true in theory. Another well-known principle enters into the problem here, which can never be safely overlooked or disregarded. Of the fibrous tissues that enter into the composition of the subcutaneous net-work, the white fibrous tissue, greatly predominates. And the characteristics of this tissue are, that while it is perfectly flexible, it is not particularly strong, it is non-elastic and it is almost totally inextensible. And when it is remembered that the tearing force of a hypodermic injection is equal at every point to the pressure of the thumb upon the top of the piston, it will be readily seen how easy it must be to do an injury to the areolar substance, of which a local redness and tenderness and possibly an abscess may be the inevitable consequence.

The lesson to be derived from this will be readily seen. There are portions of the dermal surface where the skin applies more loosely, and where the areolar spaces will be found to have relatively a greater capacity. These loose spaces are to be carefully sought after and filled according to their capacity; but no force is to be applied to the top of the piston; time is to be taken, and the fingers of the other hand must carefully study the top of the rising prominence to guard against a dangerous degree of tension.

The weakness of the best solution of the sulphate of quinine that can be made must always constitute a strong objection to its hypodermic use. Dr. Bartholow's solution is made as follows:

"℞. Quiniæ Sulph., grs. 50
Acidi Sulph. dil., ♏ 100
Aquæ Font., ʒ i
Acidi Carbol. liq. ♏ 5. Solve."

This is probably the best solution of the sulphate of quinine that can be made. But an ordinary syringeful of it contains only about three grains of the salt. It is too weak. In those desperate cases, where, in order to save life, we must have cinchonism within an hour's time, it will be necessary to refill the syringe from ten to fourteen times. And in an emergency we must not hesitate to do even this; but we can do better.

A very sanguine advocate of an acid solution of quinine, similar to this, reports having given "sixteen injections of thirty minims each (representing sixty grains of quinine), to one adult patient within twenty-four hours, with the very best results."

The writer reports further:

"I have used this solution hypodermically (sixteen years) with a large number of patients, varying from two to sixty years of age, and have never witnessed what could be considered *bad* results—the worst being a cold abscess containing a few minims of pus. I do not remember to have seen this trifling and painless abscess in more than two or three cases. Upon being opened, these abscesses healed without trouble."

And this is a very good report; but we must respectfully submit that it is not, on the whole, satisfactory. We can do better.

A fluidounce of a solution of the bimuriate of quinia and urea represents 480 grains of quinia [1]; a fluidounce of the best solution of quinine that can be made contains not more than fifty or sixty grains. The former solution is at least as unirritating as a solution of morphine; and the objections that this new salt is not ordinarily kept in the shops, and that it contains urea, are practically of no consequence. The druggist will keep on hand such things as are called for; and the adverse action of the urea has not been perceptible, even in the cases where the patient was already comatose. Take, for example, the following extract from Cresap McCoy's paper, already referred to:

"Case XXIX.—Insolatio comatose. Temperature, 105°; four injections, grs. x. each, immediately; in one hour, temperature 104°; going down steadily after this; five hours alter the injection, temperature 101°; in eighteen hours, normal; patient thoroughly cinchonized and rational three hours after administration; no other treatment adopted, excepting ice-bag to the head; no redness. Discharged cured."

There can be no abscess, as the consequence of a hypodermic injection, without the adverse concurrent action of these two causes. First, some little injury must have been done to the areola tissue; and, second, there must in some way have been an introduction of atmospheric germs. Considerable inflammation will be the consequence of a simple fracture, of course, but it will be of the adhesive kind. If, on the other hand, the fracture is a compound one, air will get into the wound, and not the air itself, but the germs which it carries, will produce a suppurative inflammation. A similar comparison can be made between an ordinary surgical wound (without antiseptic precautions) and a subcutaneous one. The needle should be scrupulously clean, then, and the water with which the solution is made should not be pure and clean merely, but absolutely free from atmospheric germs. The distilled water upon the shelf of the apothecary is clean and chemically pure, of course; but if it has not been just freshly distilled it will be liable to have attracted atmospheric inpurities, and be, therefore, unfit for use. The same is true of cistern water and of water from melted ice. Fresh drinking water will usually answer our purpose, and the addition of carbolic acid will always be

[1] New York *Medical Record*, August 7, 1880, p. 154.

very proper in case the solution is to be kept on hand.

In a paper recently read before the Indiana State Medical society, Dr. Yeakle states that many pharmacists, in a case of emergency, would not hesitate to use rain water, water from melted ice, or distilled water that has been exposed to the deleterious influences of the atmosphere, in dispensing a solution for hypodermic and other uses, and he relates several instances in which the repeated occurrence of abscess after injections led to the microscopic examination of the solution, and the detection of micro-organisms in active motion.

It may seem that a solution of quinine, made by adding sulphuric acid, must necessarily be aseptic, from the antiseptic action of the acid. But the redness and tumefaction that so frequently follow the insertion of the needle, and the necessity for adding carbolic acid to avoid an abscess, prove that this acid solution of quinine sulphate is not unirritating, and not destructive of atmospheric germs. A solution of bimuriate of quinia with urea, on the other hand, does not change with keeping, and never produces an abscess in any case.

In the discussion that followed the reading of my first paper, a learned brother, not with us to-day, objected to the use of Drygin's salt (the bimuriatica carbo-midata) that it contains urea, and cannot be used without danger of producing uræmic poisoning. But this objection, though an ingenious and plausible one, will not bear inspection; for, as already stated, the addition of the urea, while it renders the quinia salt more soluble and less irritating, does not appear to alter its therapeutic qualities in any way. And, moreover, our experience in the use of this double salt has hemonstrated another point of very great interest and importance, viz: that uræmic poisoning is not due to the chemical, urea, and must be attributed, therefore, to cadaveric salts of the body, the ptomaines, which are converted into urea to render them harmless and bring about their elimination.

In conclusion, then, of this desultory paper, we say this:

1. A hypodermic injection of the bimuriate of quinia and urea is milder and safer than an ordinary injection of the sulphate of morphia, and even less care is requisite in its administration.

2. But if, for any reason, this salt cannot readily be obtained or is not at hand, let us have an acid solution of the sulphate as above described, or similar to it, and let the pharmacist be absolutely sure that the water used in making the solution is free from atmospheric germs.

3. But by far the most important part of the operation is the selection of such areolar spaces as will contain the injections required, without laceration and without tension even. And these will be found, not within the parenchyma of the cellular tissue, but through it and beneath it, between the cellular tissue and the parts subjacent. I used to say, let us make our injections small, and multiply them. But, obviously, if we select ampler areolar spaces, the necessity for this will, in a great measure, be obviated.

I am indebted for this suggestion to Dr. N. S Guice, of Fayette, Mississippi. (Transactions of Mississippi State Medical Association, 1883.) His language is as follows:

"I select a region where the inner surface of the subcutaneous areolar tissue is loosely adherent to the subjacent tissues, usually the dorsal surface of the forearm or the front and lateral region of the throax or abdomen. With the thumb and index-finger of the left hand I elevate the skin and entire thickness of the areolar tissue. I then pass the needle of the syringe entirely through these structures, at a right angle to the direction of the fold, carrying the point beneath the inner surface of the areolar tissue, and depositing the solution in the loose, elastic tissue connecting the areolar with the subjacent tissues."—*Obstetric Gazette*, May, 1884.

Eulachon Oil.—Eulachon, or "candle-fish" oil, which is said to have a local reputation about British Columbia as an efficient medicinal agent in the treatment of phthisis and other wasting diseases, bids fair, according to my limited experience with it, to become a rival of that well-established remedy, cod-liver oil. For a description of its physical and chemical properties I will refer the reader to the clear, able article of Dr. A. B. Lyons, which was published in the THERAPEUTIC GAZETTE for September, 1884. It seems from this report that, while eulachon oil, in many particulars, resembles closely cod-liver and other fish-oils, it contains besides a substance—analogous to paraffin—which is not found in cod-liver oil. Whether or not this substance gives the remedy a particular advantage over the other agents of its class is yet a matter of conjecture. I have been using it since about last July with very good results in twelve cases of phthisis pulmonalis of different sorts. *Seven* of these were hospital cases (at St. Mary's), and *five* were cases in private practice.

Case I was an ordinary chronic phthisis, well into the third stage. The patient had been unable to take cod-liver oil even in small doses, excepting in an emulsion, but could retain, without any difficulty, two or three teaspoonfuls of eulachon oil, two or three times a day, administered in a little whisky. The disease, however, progressed, and no signal result was noticed, excepting the ability of the patient to retain the oil, and digest it.

Case II was a well-advanced case of "grinder's phthisis," in which there was considerable consolidation in both lungs, with marked hectic fever, abundant expectoration, and rapidly progressing emaciation. Hæmoptysis on April 24th to 26th, 1884. At first the eulachon oil was not retained, but, after two or three trials, there was no difficulty experienced, and the patient has been taking it since the 19th of last July, and is evidently holding his own very well, since the pulmonary tissue is not much broken down, and he thinks of resuming work. He has no hectic fever now.

Case III was local tuberculosis of the right lung in a decorator, who had been affected for about eighteen months (following a pneumonia) with progressive emaciation; a moderate hectic fever; expectoration not very abundant; and general strength gradually declining. The eulachon oil was commenced with this patient the latter part of July, and he has been taking it since, together with tonic treatment, on and off, up to this time, with no apparent disturbance of the stomach or bowels. The temperature is still above normal, digestion is good, and the patient's strength has not declined during the last month. Nocturnal sweating is only occasional, whereas in August it was almost constant.

Case IV was a case of bronchial phthisis of eighteen months' duration. Considerable febrile movement at night only; occasional nocturnal sweating; considerable thickening of the peri-bronchial tissue in both lungs; and occasional hæmorrhages. The patient had been treated with cod-liver oil before coming to the hospital, and avowed his inability to take anything of the sort. The eulachon oil was administered, first in half-teaspoonful doses, the patient having been assured that it was not cod-liver oil, and the dose gradually increased to a tablespoonful three times a day, which he has taken up to this time, with occasional doses of cinchonidine and anodynes to allay cough. Up to the 20th of October, when last seen, he had gained three pounds in weight since August 2d, experienced no difficulty in retaining the oil, and is apparently improving.

Case V.—A machinist, who had resided up to last July in Connecticut, had been affected with cough for the last two years, and for the last nine months had rapidly declined in strength, and suffered from hæmoptysis and hectic fever. By two or three physicians at his home was advised to go to Colorado as the only chance for life. Having some relatives here, he stopped on his way, and was induced to seek advice at St. Mary's Hospital. He was very much

emaciated when he presented himself in May, his pulse being very rapid, hectic fever marked, expectoration profuse, with almost nocturnal sweating. Has had three attacks of hæmoptysis; the last one on July 14th. Said he had taken cod-liver oil, malt, etc., before coming here, but could not take the oil more than a week or two at a time. It was found, upon close questioning, however, that oftentimes the oil was rejected because of being taken at improper times, and on account of severe fits of coughing. This patient was treated by the administration of cod-liver oil emulsion, malt, compound syrup of hypophosphites, etc., with no improvement up to August 15th, since which time he has steadily taken eulachon oil, together with compound tincture of gentian and Fowler's solution of arsenic, until September 5th, when the gentian and Fowler's solution were stopped, and he has taken nothing but eulachon oil since (about four tablespoonfuls daily). Up to October 1st there seemed to be very little improvement in his condition; but since then he has rapidly improved, expectoration and febrile movement diminishing, no nocturnal sweating, no derangement of the bowels, and from October 10th to November 5th he has gained four pounds in weight.

Case VI was a case of incipient phthisis of three months' duration. Very decided apex catarrh of the left side, incessant cough, great disturbance of the stomach. Gastric irritability was so great from coughing that food was often ejected. Emaciation taking place quite rapidly, but febrile movement not proportionately strong. This patient had tried cod-liver oil, but it would not digest. Eulachon oil was administered about the 15th of September, but met the same fate that had attended the ingestion of cod-liver oil. It was rejected sometimes immediately, and sometimes in the course of half an hour. It was now stopped entirely for a period of a week or two, when anodynes, malt, and stomachic tonics were prescribed. At the end of this time a 25-per-cent. emulsion of eulachon oil was administered. This, however, while it did not seem to digest, was not rejected by the stomach. Its administration was suspended for a few days again, and the stomachic tonics were resumed. In October the emulsion was again administered, and with success. For the last two weeks the patient has been taking a 50-per-cent. emulsion, with marked benefit.

Case VII.—A case of acute phthisis. Extensive tuberculous deposit in the upper lobe of the left lung, and some at the apex of the right. Two or three small cavities. Constitutional symptoms—such as hectic fever, nocturnal sweating, rapid pulse, etc.—quite strong. Besides this, a persistent diarrhœa. With this patient cod-liver oil increased the bodily temperature, and increased the diarrhœa and anorexia, whether given pure or in emulsion. After treatment by very mild tonics, bismuth, and preparations of extract of malt, covering a period of two weeks, a 25-per-cent. emulsion of eulachon oil was administered. This at first did not seem to agree with the stomach (although there was no increase of diarrhœa), and fishy eructations were complained of by the patient. It was now administered, and each dose followed immediately by five grains of bicarbonate of sodium, when, after a day or two, the patient was enabled to take the emulsion without complaining of disagreeable eructations. No extra disturbance of the bowels was noticed until an attempt was made to give a 50-per-cent. emulsion. However, by an occasional administration of an opiate, he was enabled to take a 35-per-cent. emulsion, which apparently agreed with him nicely, and he seemed to more than hold his own. As I have not seen him since October 25th, on account of his removal from the city, I do not know the further progress of the case. The case, nevertheless, illustrates the good effect of the oil regarding the disordered alimentary tract.

In the five cases in private practice an attempt was made to administer the *pure* oil; but in two of the cases it was found impossible, and in one it could only be administered in the form of an emulsion; while in the other one it could not be administered at all in any form, as the most persistent effort on the part of the patient, as well as myself, demonstrated. Of the remaining three cases, one was a case of grinder's phthisis, in a man forty-six years old, in whom an apparent arrest of the disease had taken place a year ago; but a renewal of activity began last June, when circumscribed inflammation, resulting in abscesses, very speedily followed, with consequent emaciation, hæmoptysis and hectic fever. At the time of beginning the administration of eulachon oil, in September, the patient was confined to his house; very much emaciated; constant elevation of temperature—101° to 103° F.; expectoration of a very large amount of sputum more or less mixed with blood; anorexia, nocturnal sweating, persistent cough, and troublesome diarrhœa. An attempt to administer the pure oil at first failed, but, after persisting for two or three days, he was able to retain and digest it. He has been taking three tablespoonfuls and a half daily since October 12th. He is now improving quite rapidly, and walks out a little every day. Besides this treatment he has been taking tannate of quinine, with opiates, on and off, for the relief of diarrhœa, and balsamic inhalations, but at no time did I discover that the ingestion of the oil increased the alvine evacuations.

The fourth case was one of ordinary phthisis, in a female, in the second stage of its development, which seems to be doing well. She has taken the oil since about the 3d of August with very little intermission; and, although she has not gained in weight, she has only occasional hectic fever, and is able to attend to her household duties daily.

The fifth is a case of phthisis in its early stage, with a small deposit of tubercle at the apex of the right lung. Dyspeptic symptoms quite marked; bowels constipated. An evening temperature, generally, of 102°; quite anæmic. This patient has been taking a 50-per-cent emulsion of eulachon oil since the latter part of September, and no disagreeable effects follow its administration. No other medicine has been administered excepting a cough syrup consisting of codeine and syrup of tolu. No softening of the patch has yet taken place, as shown by the physical kxploration of the chest made a week ago. No difficulty in digesting the oil is experienced. Neither has the patient had any relaxation of the bowels, excepting occasionally from eating fruit. The body-weight has increased two pounds since the administration of the oil.

The foregoing summary seems to me to point out the fact that eulachon oil is certainly not inferior to cod-liver oil in the general run of cases. Of course, there are some patients with whom the administration of any oily substance is impossible. But, if this fish-oil proves to be more digestible and agreeable than the time-honored cod-liver oil, it should certainly receive favor on that account.

The results above given might possibly have been accomplished by cod-liver oil, but in most of the patients with whom this remedy was used it was ascertained that cod-liver oil had been administered, more or less previously. While, therefore, one would not claim from this limited experience, that that the eulachon oil is in any way a specific against phthisis pulmonalis, I think, however, that the clinical trial given it fairly shows its superiority in digestibility over cod-liver oil. In only one of the cases did I find that eulachon oil really produce diarrhœa, while cod-liver oil (as the majority of the profession will testify) is very prone (when used in any extent) to cause this harassing and sometimes grave complication. Indeed, of late years, on this account, as well as because of its taste, I have used far less cod-liver oil than I did formerly, and find myself gradually coming to abandon it.

Emulsions of this oil may be made in the same way as emulsions of cod-liver oil. I generally prefer a flavoring of almond oil, with either cinnamon, wintergreen, or peppermint. The question of price is

something important for the physician to consider; for any comparatively new remedy is apt to be high-priced; but I understand this oil will probably be furnished to the market as cheap at least as cod-liver oil, and perhaps cheaper. If this is so, it seems to me that its less disagreeable properties, and its equally good, if not much better, therapeutic value, will give it a great advantage over cod-liver oil, which has held for so many years such a prominent place in the physician's armamentarium.—E. L. Shurly, M. D., Detroit, Mich., in *N. Y. Med. Jour.*, Nov. 29, 1884.

Oleate of Aconitia in Ophthalmic Practice.—I desire in this paper to place on record some clinical experience in connection with the use of oleate of aconitia in ophthalmic practice. The preparation used contained two per cent. of the alkaloid. It was generally applied to the skin of the upper lid, over a surface equal to the area of a ten-cent piece. The effect was local. About an hour after the application a sensation of heat would be experienced; then profuse lachrymation would occur, the tears escaping freely through the nostril of the same side. The effect lasted for a varying period of time. Generally several hours would elapse before the effect ceased. I have, however, known it to subside in an hour. The following cases will give illustration of its therapeutic action:

Case I.—A Swedish sailor, who, about a week before his arrival at this port, noticed something wrong with his R. E., on the arrival of the vessel came under my care at the Episcopal Hospital. The L. E. was normal. The iris of the R. E. widely dilated, the power of accommodation annulled, but distant vision good. The patient was a vigorous man of 30 years of age, without any evidence of general disease. There was a history of a slight urethritis. The pupil was very easily influenced by eserine: even a solution of $\frac{1}{80}$ grain to f $\frac{3}{j}$ would temporarily contract the pupil, and with a stronger solution the ability to see a few inches from the eye could be brought about. As soon, however, as the remedy was suspended, the eye would return to its previous state. There was a seething sound in the right ear, evidently depending on the same cause as the eye-trouble; also neuralgic pains over the right half of the head, with tenderness on pressure over the supra-orbital foramen. Optic nerve looked a little whiter than normal; the retinal veins seemed to be abnormally large, while the arteries were of normal calibre. The small venules running into the retinal veins were visible, but corresponding arterioles were absent. Fowler's solution in small doses was given, but was followed by the occurrence of a simple continued fever. The arsenic was stopped, and under appropriate treatment the fever subsided. After a proper interval, the arsenic was again given, with a recurrence of the febrile disturbance. Evidently there was either an idiosyncrasy in this phenomenon, or the abnormal state which gave rise to the eye-trouble was the cause of it. The tinct. aconit. rad. was given, and apparently through it the accommodation partly returned, the patient being enabled to read Jaeger 11 at about ten inches. No further progress seemed to be made, and the oleate of aconitia was employed. The effect was as follows: I saw him about two hours after the application. There was profuse lachrymation, pupil perhaps slightly contracted. An hour later, lachrymation still continues, pupil is contracted, not circularly, but is heart-shaped. Iris is injected. Superficial conjunctival vessels, perhaps veins, are injected. The large sub-junctival veins corresponding to the horizontal and vertical meridians were also injected. The eye did not seem sensitive to light; there was a good deal of winking, presumably due to the tears. No change was induced in the accommodation.

Cases of this kind are well known clinically, although their pathology is obscure. In my opinion, this was not a case of paralysis of the iris and ciliary muscle, except perhaps in a very restricted sense. It is true that both loss of accommodation and dilatation of the iris existed, but by the use of eserine these could be brought back. The fifth pair of nerves probably stood in some causal relation to the eye-trouble. It is noteworthy that, while slight, irregular contraction of the iris was induced by the aconitia, no change in the accommodation was observed. On the other hand, the internal use of the tincture of aconite seemed to be followed by considerable improvement in the accommodative power.

Case II.—W G., æt. 34. Sent to me by Dr. F. L. Haynes. This patient had been struck on the L. E., sixteen hours previous to my seeing him, by a flying bar of hot iron. Atropia had been instilled and hydrate of chloral given internally. When I saw the patient there was an intense pain about the eye. A superficial eschar about three-fourths of an inch long by one-sixteenth broad existed in the skin of the upper eyelid; the latter was purple from venous engorgement. The media were cloudy. By reflecting the light into the eye, a number of dark lines were seen, probably due to wrinkling of the anterior capsule. The retinal arteries were very tortuous. R. E. could not be examined satisfactorily at this time. A day or two later this was examined again, and the same arterial tortuosity observed as in the L. E. Pressure on the left supra-orbital nerve induced a sensation like that of a foreign body rolling in the eye. Morphiæ sulph., gr. $\frac{1}{4}$, internally, night and morning, was ordered, and also the oleate of aconitia to be applied in the neighborhood of the eye. In a few days there was complete relief from the pain, and the patient was discharged.

Case III.—Miss B. came to my office February 1, 1884, with the following history: Within a few days the skin about the left orbit had been cut by pieces of broken window-glass. The wounds had healed, leaving two small scars, about on the level with the infra-orbital ridge. The eye was very sensitive to light, although not injected. The retinal arteries in each eye showed the tortuosity common in cases of so-called irritable retina. Pressure on the scars would cause the lids instantly to close. The patient further suffered from false projection: that is to say, in looking with the left eye at an object near at hand, it would appear much farther away from the patient than it really was. This, I suppose, was due to some defect in the process of accommodation. Both internal treatment, and local applications of chloroform liniment about the eye were ordered. A weak solution of eserine was also applied. No material relief was thus obtained. The oleate of aconitia was then applied to the scars, with the effect of both relieving the patient, and at the same time seeming to cause the cicatrices to disappear.

In both of these cases there was undoubtedly lesion of the peripheral ends of the fifth pair. Some doubt may be raised as to the effect of the aconitia in relieving case II, as morphia was given at the same time. My impression, however, at the time was that the aconitia was really the efficient agent. Case III was less open to doubt: here was a patient whose trouble was beyond a doubt caused by the cicatrices in the skin, under observation for months, treated with slight effect by various remedies, and finally relieved by the local use of the aconitia. This case seems to point to this conclusion, viz , that in abnormal conditions of the fifth, depending on lesions of the peripheral ends, as from scars in the skin, etc., the aconitia will do good.

There are certain cases of ciliary neuralgia which are relievable, in my experience, with the oleate of aconitia, and perhaps the true explanation of such cases is found in a peripheral lesion of the fifth, although invisible to the naked eye.

Graefe's classical case of cure of blepharospasm by section of the supra-orbital nerve is well known, and may be studied in connection with the above cases. In this case the exciting cause was a blow from a missile apparently inducing such change in the peripheral nerve-filaments as to set up reflex spasm. There are, however, cases of ocular pain, which are

not reached by the aconitia. Thus, a patient who suffered with great ocular pain and great intolerance of light, and in whose eyes decided pigmentary change in the outer layer of the retina was observed, received no benefit from the aconitia. The fifth pair was involved in some way in this case, but the aconitia seemed to produce no effect.—Dr. A. G. Heyl, in *Phila. Medical Times*, Oct. 18, 1882.

The History and Properties of Cocaine.—Wackenroder and Johnston expressed the belief, as long ago as 1853, that an active alkaloid existed in the leaves of erythroxylon coca. Gadeke first isolated it, but it was not till 1860 that Niemann (*Ann. Chem. Pharm*, 114, 213) announced its physical properties and gave it the name of *cocaïn*. A little later Losson found in coca leaves another, apparently inert, volatile base, which he called hygrin (*Ann. Chem. Pharm.*, 133, 351). This latter chemist states that in the best leaves the amount of cocaine was at most one-fifth of one per cent., and in the poorer kinds as little as one-sixtieth of one per cent.

Cocaine crystallizes in large four- to six-sided colorless prisms. It has a bitter taste, benumbing the tongue, a strongly alkaline reaction, and melts at 98° C. It dissolves in 704 parts of water at 12° C., easily in alcohol, and more easily in ether. Its composition, as determined by Losson, is $C_{17}H_{21}NO_4$.

Cocaine unites easily with dilute acids to form crystallizable salts, which are soluble in alcohol but not in ether.

The salts which the industry of chemists has already prepared are the muriate ($C_{17}H_{21}NO_4HCl$), the sulphate, nitrate, tannate, and oxalate. Besides these there have been prepared double salts of cocaine-platinum chloride ($C_{17}H_{21}NO_4HClPtCl_2$) and of cocaine-gold chloride.

By decomposition with strong acids a new base has been formed out of cocaine, which is called ecgonin.

A test given for watery solutions of muriate of cocaine is picric acid, which throws down a yellowish precipitate.

The alkaloid cocaine has not been used medicinally to any great extent, but its physiological action has been studied by a number of observers.

For man the dose runs from one-sixth to two grains. Its lethal power is slight and its action is not cumulative (Husemann). Von Anrep found (*Archiv. ges. Physiol.*, 21, 38, 1880) that the cocaine could be taken daily for a long time without producing any notable disturbance, and he concluded that its action was not cumulative. Schroff, who in 1862 made the first experiments upon man with cocaine (*Zeitschrift f. Wien. Aerzte*, 30 34), found that in large doses it caused vertigo, lassitude, slight deafness, disturbance of memory, and of coördination of thought.

Other experiments and observations by Fronmüller (*Prag. Vierteljahrsschr.*, 79, 109, 1863), Jarchanoff (Cocain and Diabetes, Petersburg, 1872), and Ploss (*Zeitschr. Chir.*, 222, 1863), appear to show that cocaine is a narcotic, having a primary stimulating action upon the brain, and being analogous in properties to cannabis indica. Fronmüller, in fourteen cases, was able to produce sleep by giving large doses (up to five grains). Ploss reports the case of a druggist who took about twenty-two grains of cocaine in a glass of beer. He slept quietly for some hours, then awoke with powerful abdominal gripings, burning and dryness of the mouth, and thirst. He vomited any liquid drank. He suffered from vertigo, feebleness, and anuria for twenty-four hours. The heart's action showed no disturbance, and his mind was not disordered. The case is instructive as showing that cocaine is probably not a very poisonous drug to men, and that in large doses its narcotic action is immediate.

Among animals it has been found that frogs are more susceptible than warm-blooded animals, and that carnivora are more sensitive than herbivora.

The fatal dose for a dog is from three to five grains. (Danini: "Ueber Physiolog. Wirkung und Therap. Anwendung des Cocains," St. Petersburg, 1873). Rabbits are killed by doses of 0.1 gramme per kilogramme of animal, according to Von Anrep.

The physiological effects of cocaine externally and internally have been studied by the authors already quoted, and by Nikolsky ("Beitrag. zur Cocain Wirkung auf den Thier Organismus," St. Petersburg. 1872); Isaac Ott (Moréno y Mäiz: "Recherches Chim. et Physiol. sur l'Erythroxylon Coca du Pérou et la Cocaïne," Paris, 1868); by Danini ("Ueber Physiol. Wirkung u. ther. Anwendung des Cocaïns," Charkow, 1873); Bennett ("Report on Antagonism of Drugs," 1875); and by Rossbach ("R. and Nothnagel's Handbook of Therapeutics"). An excellent review of the contributions of these authors, to which we are indebted, is given in Husemann and Hilger's "Die Pflanzenstoffe," Berlin, 1883, from which we summarize the knowledge so far gained of the properties of the drug.

Locally, it produces the effects upon skin and mucous membrane which have been already described in the Record, and need not be repeated now. Moréno, in 1868, showed that local injections abolished reflex movements for a time, and Von Anrep, in 1880, showed that the sensibility of the skin was abolished *when hypodermically injected*, and that of the tongue when touched with strong solutions. The same author applied a solution containing one-half a milligramme to the conjunctiva, and found that it caused a temporary dilatation of the pupil, which was increased by adding atropine. Strangely enough, Anrep did not note that the conjunctiva was insensible, or if so, did not appreciate the practical significance of the fact. As Nikolsky found that the pupil is still dilated by cocaine after section of the sympathetic, it is inferred that the drug does not act upon the iris through that nerve.

Cocaine given internally in small doses to warm-blooded animals stimulates the nerve-centres, acting most plainly upon the higher psycho-motor cells of the brain, then upon the medulla oblongata and the cord. It seems especially to affect the action of the semicircular canals, causing vertigo, and in dogs, at least, disturbances of equilibrium and rolling movements. The pupil is dilated. A lengthening in the time of muscular contraction, claimed to exist by Ott, Buchheim, and others, is denied by Nikolsky and Anrep. Respiration is hastened and labored in warm-blooded animals; in fatal doses the breathing stops before the heart-action. Upon the heart moderate doses of cocaine in warm-blooded animals, lessen the inhibitory action of the vagus and increase the rapidity of the beat, without impairing its strength. Moderate doses appear also to raise arterial pressure, but in medicinal doses the cocaine does not greatly affect the vaso-motor system. Moderate doses increase intestinal peristalsis, while large doses lessen it and seem to produce a venous congestion of the walls.

There is a decrease in the secretion of saliva and of mucus, while the urine does not seem to be much affected, except in toxic doses.

So far as the local anæsthetic effect of cocaine is concerned, it seems to have been independently noticed by several persons, as we have indicated above. The practical application of this knowledge, however, is only of very recent date.—*Medical Record*, November 8, 1884.

Caffeine and Adonis Vernalis.—In the last meeting of the Berlin Society for Internal Medicine, before this summer vacation (June 30, c.), Dr. Michaelis reported a case in which all other diuretics had proved useless, and digitalis produced dangerous symptoms, forbidding its employment. (Deutsch Med. Zeit., p. 45, No. 56)

The patient, a man æt. 50, was suffering from pneumonia of the whole left side, and besides from an enormous ascites and left-sided œdema. With each paracentesis 6 to 8 litres of fluid of very low spe-

cific gravity were discharged; but the fluid always rapidly re-accumulated, and, digitalis having been administered a long time, diuresis suddenly ceased, and disagreeable disturbances of the heart's action set in. Having just then read of adonis, Dr. M. tried this remedy. The patient had then for some time been daily passing about 10 oz. of a very concentrated urine, and bis pulse intermitted. A decoction of adonis (ʒ j to f. ℥ vj) was given, and already within the next twenty-four hours the patient discharged a pint and a third of urine; and, on the second day, the quantity passed within the last twenty-four hours amounted to 2½ pints, of a specific gravity of 1022. M. had to leave the city for a few days; the physician who took his place omitted the adonis, and M. found on his return the patient in the former miserable state. Digitalis was then once more tried, but it evinced no diuretic effect; when, adonis being resumed, the quantity of the daily excreted urine gradually rose to 50 oz., and œdema and ascites totally disappeared. Finally, the patient died of urinary paralysis.

Corvello has discovered in adonis a glucoside, adonidine, which is said to resemble digitaline in its effect. In the same meeting, the chief of one of the large Berlin polyclinics reported that in every morbid case in which the remedy has been employed, it greatly increased the secretion of urine. Even in persons suffering from a very weak heart the same effect was noticed; and it is remarkable that the urine, under its influence, no matter how much augmented in quantity, retains or assumes a high specific gravity, which, according to Botkin, is to be ascribed to the increase of urates and chlorides, which takes place under the influence of adonis. But though the remedy will occasionally improve the pulse, it does not possess the same tonic effect on the heart as digitalis. An accumulative action has not been observed. But the drug is exceedingly bitter, and yields that taste to no corrigent; it also causes at times nausea and vomiting, and even diarrhœa has been produced by it, though the addition of a small dose of bicarbonate of sodium somewhat improves the action of adonis in this respect.

Caffeine in its double salts, is the best remedy where prompt and rapid effect on the heart is needed, no other drug acting so energetically. Its effect is not so permanent as that of digitalis, but in cases of intense dyspnœa, cyanosis of a high degree, small and exceeding rapid pulse, within a few minutes, if hypodermically employed, caffeine will improve the patient visibly, and rapidly bring him decided ease. Subcutaneously administered, the dose is a syringeful of the following solution: Caffeine natro-benzoic, gr. lxxx, aqua dest, f. ʒ ij—℈ij, while internally a tablespoonful about every four hours is given of caff. natro-benz. gr. xxxii, aqua dest, f. ℥ v.

As a resumé we may say: that in cases of danger caffeine natro-benz., subcutaneously employed, is the best remedy in heart disease; digitalis, if a more permanent effect is wanted; adonis, if the intention is simply to increase the flow of urine; while caffeine, internally administered, will often assist us, when digitalis has lost the therapeutical effect.—*Medical and Surgical Reporter*, Oct. 11, 1884.

Yerba Santa to Disguise the Taste of Quinine.—I have recently made some experiments regarding making quinine in solution palatable—a problem interesting to every physician in malarious districts. Palatable medicines are taken with a regularity which alone is worth the extra trouble required in compounding them.

Five grains of sulphate of quinine were extemporaneously mixed with, or dissolved in, the following:

1. "Quineptus," ℥ ss.
2. "Fluid ext. licorice for quinine mixtures," (Parke, Davis & Co.), ℥ ss.
3. Cascara cordial (P., D. & Co.), ℥ ss.
4. Cascara cordial (P., D. & Co.), ʒ j.
5. Syr. yerba santa. arom. (P., D. Co.), ʒ j.
6. Ac. tannic, gr. jss. ; syr. rhei arom., ʒ j.
7. Ac. tannic, gr. jss. ; syr. rhei arom., ℥ j.

No. 1 had no taste of quinine and no after-taste. No. 2 was bitter. No. 3 had no bitterness at first, but left an after-taste in the mouth. No. 4 had slight quinine taste and bad after-taste. No. 5 had a scarcely perceptible bitterness and no after-taste. No. 6 had a deeper shade of bitterness than No. 5, but would be equally palatable to many persons from its flavor. No. 7 was similar to No. 1.

I think that No. 1 or No. 7 would be the preferable menstruum were it not for the large amount required, which is repugnant to many. A small quantity of No. 1 followed by a drink of water is very efficient to remove the after-taste. No. 5 and No. 6 were so very nearly equal to Nos. 1 and 7 that their smaller dose makes me greatly prefer them. The combination in Nos. 6 and 7 was suggested to me by E. H. Robinson, M. D., of Lawrenceville, Ill.

The desideratum is a menstruum, a drachm of which will cover five or six grains of quinine, which may be allowed to stand in combination with it for a week or so, and which may not be incompatible with other fluids that we may wish to combine with the quinine. I do not believe a satisfactory menstruum for disguising quinine has yet been invented.—G. WALTER BARR, M. D., in *Medical and Surgical Reporter*, Oct. 25, 1884.

The Green Color of Cannabis Indica Extract not Due to the Presence of Copper.—Dr. Squibb, in Ephemeris for September, corrects an error committed by Mr. Henry Maclagan in the American Druggist of July, 1884. Mr. Maclagan attributed the green color of cannabis extract to copper introduced by manufacturers, either purposely or through ignorance, and that this extract cannot be of a green color without being contaminated with copper. Careful experiments by Dr. Squibb show that good hemp extract ought to be green in color, and that an extract made purposely in a copper vessel to determine how much of that metal would enter into its composition, showed that a medium dose of the extract made in this way would contain .00074 grains of copper.—*N. C. Med. Journal*, Oct., 1884.

Piscidia Erythrina.—According to the Deutsche Medizinal-Zeitung, Frohnmüller has made observations with this drug, using both the solid extract and the fluid extract, the former in doses of from two to four grains at bed time, and the latter in doses of from seventy-five to two hundred drops. Sleeplessness was regarded as the indication for its administration. Ninety-three patients were thus treated, with most satisfactory results. The remedy is described as milder in its action than opium, as not constipating, and as having no influence upon the pulse, the temperature, or the secretions. In many of the cases sleep ensued after a half-hour, and was uninterrupted throughout the night. The patients awoke without a trace of heaviness or headache.—*N. Y. Medical Journal*, Nov. 15, 1884.

Convallaria Majalis.—As the result of a series of experiments made by M. Reboul on the physiological action of convallaria on the heart of warm-blooded animals, the following conclusions have been drawn: Convallaria acts primarily on the nervous system of the heart, and more especially on its intra-cardiac elements; the chief effects observed consisted in the slowing or arrest of the cardiac beats (Lyon Médical, Nos. 37 and 38). Several tracings illustrating the effects of the drug on the cardiac beats and blood-pressure are given in the paper by Reboul.—*Med. and Surg. Reporter*, Nov. 1, 1884.

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